

## SEQUENCE LISTING

<110> Brett P. Monia  
Susan M. Freier  
Scott Cooper

<120> ANTISENSE MODULATION OF FIBROBLAST GROWTH FACTOR RECEPTOR 2  
EXPRESSION

<130> RTS-0250

<160> 108

<210> 1  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 1  
tccgtcatcg ctcctcaggg

20

<210> 2  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 2  
atgcattctg cccccaagga

20

<210> 3  
<211> 4268  
<212> DNA  
<213> Homo sap

&lt;220&gt;

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (274) ... (2739)

&lt;400&gt; 3

```

cccaaggacc actcttctgc gtttggagtt gctccccaca accccgggct cgtegttttc      60
tccatcccga cccacgcggg gcgcggggac aacacaggtc gcggaggagc gttgccattc      120
aagtgactgc agcagcagcg gcagcgccctc ggttcctgag cccaccgcag gctgaaggca      180
ttgcgcgtag tccatgcccc tagaggaagt gtgcagatgg gattaacgct cacatggaga      240
tatggaagag gaccggggat tggtagccta acc atg gtc agc tgg ggt cgt ttc      294
                               Met Val Ser Trp Gly Arg Phe
                               1           5

atc tgc ctg gtc gtg gtc acc atg gca acc ttg tcc ctg gcc cgg ccc      342
Ile Cys Leu Val Val Val Thr Met Ala Thr Leu Ser Leu Ala Arg Pro
      10           15           20

tcc ttc agt tta gtt gag gat acc aca tta gag cca gaa gag cca cca      390
Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu Pro Glu Glu Pro Pro
      25           30           35

acc aaa tac caa atc tct caa cca gaa gtg tac gtg gct gcg cca ggg      438
Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr Val Ala Ala Pro Gly
      40           45           50           55

gag tcg cta gag gtg cgc tgc ctg ttg aaa gat gcc gcc gtg atc a      56
Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp Ala Ala Val Ile
      60           65           70           75           80           85           90
tgg act aag gat ggg gtg cac ttg ggg ccc aac aat      96
Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn Asn tcc ggc
      75           80           85           90           95           100
p Ser Gly      582

att ggg gag tac ttg cag ata aag ggc
Ile Gly Glu Tyr Leu Gln Ile Lys C
      90

```

ctc tat gct tgt act gcc agt agg act gta gac agt gaa act tgg tac 630  
 Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp Ser Glu Thr Trp Tyr  
 105 110 115

ttc atg gtg aat gtc aca gat gcc atc tca tcc gga gat gat gag gat 678  
 Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser Gly Asp Asp Glu Asp  
 120 125 130 135

gac acc gat ggt gcg gaa gat ttt gtc agt gag aac agt aac aac aag 726  
 Asp Thr Asp Gly Ala Glu Asp Phe Val Ser Glu Asn Ser Asn Asn Lys  
 140 145 150

aga gca cca tac tgg acc aac aca gaa aag atg gaa aag cgg ctc cat 774  
 Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg Leu His  
 155 160 165

gct gtg cct gcg gcc aac act gtc aag ttt cgc tgc cca gcc ggg ggg 822  
 Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala Gly Gly  
 170 175 180

aac cca atg cca acc atg cgg tgg ctg aaa aac ggg aag gag ttt aag 870  
 Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu Phe Lys  
 185 190 195

cag gag cat cgc att gga gcc tac aag gta cga aac cag cac tgg agc 918  
 Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His Trp Ser  
 200 205 210 215

ctc att atg gaa agt gtg gtc cca tct gac aag gga aat tat acc tgt 966  
 Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr Thr Cys  
 220 225 230

gtg gtg gag aat gaa tac ggg tcc atc aat cac acg tac cac ctg gat 1014  
 Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His Leu Asp  
 235 240 245

gtt gtg gag cga tgg cct cac cgg ccc atc ctc caa gcc gga ctg ccg 1062  
 Val Val Glu Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro  
 250 255 260

gca aat gcc tcc aca gtg gtc gga gga gac gta gag ttt gtc tgc aag 1110  
 Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val Glu Phe Val Cys Lys  
 265 270 275

gtt tac agt gat gcc cag ccc cac atc cag tgg atc aag cac gtg gaa 1158  
 Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp Ile Lys His Val Glu  
 280 285 290 295

aag aac ggc agt aaa tac ggg ccc gac ggg ctg ccc tac ctc aag gtt 1206  
 Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu Lys Val  
 300 305 310

ctc aag gcc gcc ggt gtt aac acc acg gac aaa gag att gag gtt ctc 1254  
 Leu Lys Ala Ala Gly Val Asn Thr Thr Asp Lys Glu Ile Glu Val Leu  
 315 320 325

tat att cgg aat gta act ttt gag gac gct ggg gaa tat acg tgc ttg 1302  
 Tyr Ile Arg Asn Val Thr Phe Glu Asp Ala Gly Glu Tyr Thr Cys Leu  
 330 335 340

gcg ggt aat tct att ggg ata tcc ttt cac tct gca tgg ttg aca gtt 1350  
 Ala Gly Asn Ser Ile Gly Ile Ser Phe His Ser Ala Trp Leu Thr Val  
 345 350 355

ctg cca gcg cct gga aga gaa aag gag att aca gct tcc cca gac tac 1398  
 Leu Pro Ala Pro Gly Arg Glu Lys Glu Ile Thr Ala Ser Pro Asp Tyr  
 360 365 370 375

ctg gag ata gcc att tac tgc ata ggg gtc ttc tta atc gcc tgt atg 1446  
 Leu Glu Ile Ala Ile Tyr Cys Ile Gly Val Phe Leu Ile Ala Cys Met  
 380 385 390

gtg gta aca gtc atc ctg tgc cga atg aag aac acg acc aag aag cca 1494  
 Val Val Thr Val Ile Leu Cys Arg Met Lys Asn Thr Thr Lys Lys Pro  
 395 400 405

gac ttc agc agc cag ccg gct gtg cac aag ctg acc aaa cgt atc ccc 1542  
 Asp Phe Ser Ser Gln Pro Ala Val His Lys Leu Thr Lys Arg Ile Pro  
 410 415 420

ctg cgg aga cag gta aca gtt tcg gct gag tcc agc tcc tcc atg aac 1590  
 Leu Arg Arg Gln Val Thr Val Ser Ala Glu Ser Ser Ser Ser Met Asn  
 425 430 435

tcc aac acc ccg ctg gtg agg ata aca aca cgc ctc tct tca acg gca 1638  
 Ser Asn Thr Pro Leu Val Arg Ile Thr Thr Arg Leu Ser Ser Thr Ala  
 440 445 450 455

gac acc ccc atg ctg gca ggg gtc tcc gag tat gaa ctt cca gag gac 1686  
 Asp Thr Pro Met Leu Ala Gly Val Ser Glu Tyr Glu Leu Pro Glu Asp  
 460 465 470

cca aaa tgg gag ttt cca aga gat aag ctg aca ctg ggc aag ccc ctg 1734  
 Pro Lys Trp Glu Phe Pro Arg Asp Lys Leu Thr Leu Gly Lys Pro Leu  
 475 480 485

gga gaa ggt tgc ttt ggg caa gtg gtc atg gcg gaa gca gtg gga att 1782  
 Gly Glu Gly Cys Phe Gly Gln Val Val Met Ala Glu Ala Val Gly Ile  
 490 495 500

gac aaa gac aag ccc aag gag gcg gtc acc gtg gcc gtg aag atg ttg 1830  
 Asp Lys Asp Lys Pro Lys Glu Ala Val Thr Val Ala Val Lys Met Leu  
 505 510 515

aaa gat gat gcc aca gag aaa gac ctt tct gat ctg gtg tca gag atg 1878  
 Lys Asp Asp Ala Thr Glu Lys Asp Leu Ser Asp Leu Val Ser Glu Met  
 520 525 530 535

gag atg atg aag atg att ggg aaa cac aag aat atc ata aat ctt ctt 1926  
 Glu Met Met Lys Met Ile Gly Lys His Lys Asn Ile Ile Asn Leu Leu  
 540 545 550

gga gcc tgc aca cag gat ggg cct ctc tat gtc ata gtt gag tat gcc 1974  
 Gly Ala Cys Thr Gln Asp Gly Pro Leu Tyr Val Ile Val Glu Tyr Ala  
 555 560 565

tct aaa ggc aac ctc cga gaa tac ctc cga gcc cgg agg cca ccc ggg 2022  
 Ser Lys Gly Asn Leu Arg Glu Tyr Leu Arg Ala Arg Arg Pro Pro Gly  
 570 575 580

atg gag tac tcc tat gac att aac cgt gtt cct gag gag cag atg acc 2070  
 Met Glu Tyr Ser Tyr Asp Ile Asn Arg Val Pro Glu Glu Gln Met Thr  
 585 590 595

ttc aag gac ttg gtg tca tgc acc tac cag ctg gcc aga ggc atg gag 2118  
 Phe Lys Asp Leu Val Ser Cys Thr Tyr Gln Leu Ala Arg Gly Met Glu  
 600 605 610 615

tac ttg gct tcc caa aaa tgt att cat cga gat tta gca gcc aga aat 2166  
 Tyr Leu Ala Ser Gln Lys Cys Ile His Arg Asp Leu Ala Ala Arg Asn  
 620 625 630

gtt ttg gta aca gaa aac aat gtg atg aaa ata gca gac ttt gga ctc	2214
Val Leu Val Thr Glu Asn Asn Val Met Lys Ile Ala Asp Phe Gly Leu	
635 640 645	
gcc aga gat atc aac aat ata gac tat tac aaa aag acc acc aat ggg	2262
Ala Arg Asp Ile Asn Asn Ile Asp Tyr Tyr Lys Lys Thr Thr Asn Gly	
650 655 660	
cgg ctt cca gtc aag tgg atg gct cca gaa gcc ctg ttt gat aga gta	2310
Arg Leu Pro Val Lys Trp Met Ala Pro Glu Ala Leu Phe Asp Arg Val	
665 670 675	
tac act cat cag agt gat gtc tgg tcc ttc ggg gtg tta atg tgg gag	2358
Tyr Thr His Gln Ser Asp Val Trp Ser Phe Gly Val Leu Met Trp Glu	
680 685 690 695	
atc ttc act tta ggg ggc tcg ccc tac cca ggg att ccc gtg gag gaa	2406
Ile Phe Thr Leu Gly Gly Ser Pro Tyr Pro Gly Ile Pro Val Glu Glu	
700 705 710	
ctt ttt aag ctg ctg aag gaa gga cac aga atg gat aag cca gcc aac	2454
Leu Phe Lys Leu Leu Lys Glu Gly His Arg Met Asp Lys Pro Ala Asn	
715 720 725	
tgc acc aac gaa ctg tac atg atg atg agg gac tgt tgg cat gca gtg	2502
Cys Thr Asn Glu Leu Tyr Met Met Met Arg Asp Cys Trp His Ala Val	
730 735 740	
ccc tcc cag aga cca acg ttc aag cag ttg gta gaa gac ttg gat cga	2550
Pro Ser Gln Arg Pro Thr Phe Lys Gln Leu Val Glu Asp Leu Asp Arg	
745 750 755	
att ctc act ctc aca acc aat gag gaa tac ttg gac ctc agc caa cct	2598
Ile Leu Thr Leu Thr Thr Asn Glu Glu Tyr Leu Asp Leu Ser Gln Pro	
760 765 770 775	
ctc gaa cag tat tca cct agt tac cct gac aca aga agt tct tgt tct	2646
Leu Glu Gln Tyr Ser Pro Ser Tyr Pro Asp Thr Arg Ser Ser Cys Ser	
780 785 790	
tca gga gat gat tct gtt ttt tct cca gac ccc atg cct tac gaa cca	2694
Ser Gly Asp Asp Ser Val Phe Ser Pro Asp Pro Met Pro Tyr Glu Pro	
795 800 805	

tgc ctt cct cag tat cca cac ata aac ggc agt gtt aaa aca tga 2739  
Cys Leu Pro Gln Tyr Pro His Ile Asn Gly Ser Val Lys Thr  
810 815 820

atgactgtgt ctgcctgtcc ccaaacagga cagcactggg aacctagcta cactgagcag 2799  
ggagaccatg cctcccagag cttgttgtct ccacttgat atatggatca gaggagtaaa 2859  
taattggaaa agtaatcagc atatgtgtaa agatttatac agttgaaaac ttgtaatctt 2919  
ccccaggagg agaagaaggt ttctggagca gtggactgcc acaagccacc atgtaacccc 2979  
tctcacctgc cgtgcgttct ggctgtggac cagtaggact caaggtggac gtgcgttctg 3039  
ccttccttgt taattttgta ataattggag aagatttatg tcagcacaca cttacagagc 3099  
acaaatgcag tatatagggt ctggatgtat gtaaataat tcaaattatg tataaatata 3159  
tattatata ttacaaggag ttattttttg tattgatttt aaatggatgt cccaatgcac 3219  
ctagaaaatt ggtctctctt tttttaatag ctatttgcta aatgctgttc ttacacataa 3279  
tttcttaatt ttcaccgagc agaggtggaa aaatactttt gctttcaggg aaaatggtat 3339  
aacgttaatt tattaataaa ttggtaatat acaaaacaat taatcattta tagttttttt 3399  
tgtaatttaa gtggcatttc tatgcaggca gcacagcaga ctagttaatc tattgcttgg 3459  
acttaactag ttatcagatc ctttgaaaag agaataatta caatatatga ctaatttggg 3519  
gaaaatgaag ttttgattta tttgtgttta aatgctgctg tcagacgatt gttcttagac 3579  
ctcctaaatg ccccatatta aaagaactca ttcataggaa ggtgtttcat tttggtgtgc 3639  
aaccctgtca ttacgtcaac gcaacgtcta actggacttc ccaagataaa tggtagcagc 3699  
gtcctcttaa aagatgcctt aatccattcc ttgaggacag accttagttg aaatgatagc 3759  
agaatgtgct tctctctggc agctggcctt ctgcttctga gttgcacatt aatcagatta 3819  
gcctgattct cttcagtgaa ttttgataat ggcttccaga ctctttgcgt tggagacgcc 3879  
tgtaggagtc ttcaagtccc atcatagaaa attgaaacac agagttgttc tgctgatagt 3939

tttggggata cgtccatctt tttaagggat tgctttcatc taattctggc aggacctcac 3999  
caaaagatcc agcctcatc ctacatcaga caaaatatcg ccgttggtcc tctgtacta 4059  
aagtattgtg ttttgctttg gaaacaccca ctcaatttgc aatagccgtg caagatgaat 4119  
gcagattaca ctgatcttat gtgttacaaa attggagaaa gtatttaata aaacctgtta 4179  
atttttatac tgacaataaa aatgtttcta cagatattaa tgtaacaag acaaaataaa 4239  
tgtcacgcaa cttaaaaaaa aaaaaaaaaa 4268

&lt;210&gt; 4

&lt;211&gt; 22

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR Primer

&lt;400&gt; 4

aaggaccact cttctgcgtt tg

22

&lt;210&gt; 5

&lt;211&gt; 19

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; PCR Primer

&lt;400&gt; 5

tgggtcggga tggagaaag

19

&lt;210&gt; 6

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence



<220>

<223> PCR Probe

<400> 6

cccacaaccc cgggctcgtc

20

<210> 7

<211> 19

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 7

gaagggtgaag gtcgggagtc

19

<210> 8

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 8

gaagatgggtg atgggatttc

20

<210> 9

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 9

caagcttccc gttctcagcc

20

&lt;210&gt; 10

&lt;211&gt; 3306

&lt;212&gt; DNA

&lt;213&gt; Mus musculus

&lt;220&gt;

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (607)...(3072)

&lt;400&gt; 10

gaattcccg cgcgccgcca gagctccggc ccgggggctg cctgtgtgtt cctggcccgg 60

cgtggcgact gctctccggg ctggcggggg ccgggcgtga gcccgggcct cagcgttcct 120

gagcgtcg agtggttact actcgccagc aaagtgttga gtaggcaacg caagctccag 180

tcctttcttc tgcgtctgcc cagatccgag agcagctccg gtgtatgtct agctgttctg 240

cgatcccggc gcgcgtgaag cctcggaacc ttggcgccgg ctgctaccca aggaatcggt 300

ctcttttttg agttttcctc cgagatcatt gcctgctcca tcccgatcca ctctgggctc 360

cggcgcagca ccgagcgcag aggagcgtg ccattcaagt ggcagccaca gcagcagcag 420

cagcagcagt gggagcagga acagcagtaa caacagcaac agcagcacag ccgcctcaga 480

gctttgctcc tgagcccctg tgggctgaag gcattgcagg tagcccatgg tctcagaaga 540

agtgtgcaga tgggattacc gtccacgtgg agatatggaa gaggaccagg gattggcact 600

gtgacc atg gtc agc tgg ggg cgc ttc atc tgc ctg gtc ttg gtc acc 648

Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Leu Val Thr

1 5 10

atg gca acc ttg tcc ctg gcc cgg ccc tcc ttc agt tta gtt gag gat 696

Met Ala Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp

15 20 25 30

acc act tta gaa cca gaa gag cca cca acc aaa tac caa atc tcc caa 744

Thr Thr Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln	
35 40 45	
cca gaa gcg tac gtg gtt gcc ccc ggg gaa tcg cta gag ttg cag tgc	792
Pro Glu Ala Tyr Val Val Ala Pro Gly Glu Ser Leu Glu Gln Cys	
50 55 60	
atg ttg aaa gat gcc gcc gtg atc agt tgg act aag gat ggg gtg cac	840
Met Leu Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His	
65 70 75	
ttg ggg ccc aac aat agg aca gtg ctt att ggg gag tat ctc cag ata	888
Leu Gly Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile	
80 85 90	
aaa ggt gcc aca cct aga gac tcc ggc ctc tat gct tgt act gca gct	936
Lys Gly Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ala	
95 100 105 110	
agg acg gta gac agt gaa act tgg atc ttc atg gtg aat gtc aca gat	984
Arg Thr Val Asp Ser Glu Thr Trp Ile Phe Met Val Asn Val Thr Asp	
115 120 125	
gcc atc tca tct gga gat gat gag gac gac aca gat agc tcc gaa gac	1032
Ala Ile Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Ser Ser Glu Asp	
130 135 140	
gtt gtc agt gag aac agg agc aac cag aga gca ccg tac tgg acc aac	1080
Val Val Ser Glu Asn Arg Ser Asn Gln Arg Ala Pro Tyr Trp Thr Asn	
145 150 155	
acc gag aag atg gag aag cgg ctc cac gct tgt cct gcc gcc aac act	1128
Thr Glu Lys Met Glu Lys Arg Leu His Ala Cys Pro Ala Ala Asn Thr	
160 165 170	
gtg aag ttc cgc tgt ccg gct ggg ggg aat cca acg tcc aca atg agg	1176
Val Lys Phe Arg Cys Pro Ala Gly Gly Asn Pro Thr Ser Thr Met Arg	
175 180 185 190	
tgg tta aaa aac ggg aag gag ttt aag cag gag cat cgc att gga ggc	1224
Trp Leu Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly Gly	
195 200 205	
tat aag gta cga aac cag cac tgg agc ctt att atg gaa agt gtg gtc	1272

Tyr Lys Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val	
210 215 220	
ccg tca gac aaa ggc aac tac acc tgc ctg gtg gag aat gaa tac ggg	1320
Pro Ser Asp Lys Gly Asn Tyr Thr Cys Leu Val Glu Asn Glu Tyr Gly	
225 230 235	
tcc atc aac cac acc tac cac ctg gat gtc gtt gaa cgt tca cca cac	1368
Ser Ile Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His	
240 245 250	
cgt ccc atc ctc caa gct gga ctg cct gca aat gcc tcc acg gtg gtc	1416
Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val	
255 260 265 270	
gga ggg gat gtg gag ttt gtc tgc aag gtt tac agc gat gcc cag ccc	1464
Gly Gly Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro	
275 280 285	
cac atc cag tgg atc aag cac gtg gaa aag aac ggc agt aaa aac ggg	1512
His Ile Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Asn Gly	
290 295 300	
cct gat ggg ctg ccc tac ctc aag gtt ctg aaa gct gcc ggt gtt aac	1560
Pro Asp Gly Leu Pro Tyr Leu Lys Val Leu Lys Ala Ala Gly Val Asn	
305 310 315	
acc acg gac aaa gag att gag gtt ctc tat att cgg aat gta act ttt	1608
Thr Thr Asp Lys Glu Ile Glu Val Leu Tyr Ile Arg Asn Val Thr Phe	
320 325 330	
gag gat gct ggg gaa tat acg tgc ttg gcg ggt aat tct atc ggg ata	1656
Glu Asp Ala Gly Glu Tyr Thr Cys Leu Ala Gly Asn Ser Ile Gly Ile	
335 340 345 350	
tcc ttt cac tct gca tgg ttg aca gtt ctg cca gcg cct gtg aga gag	1704
Ser Phe His Ser Ala Trp Leu Thr Val Leu Pro Ala Pro Val Arg Glu	
355 360 365	
aag gag atc acg gct tcc cca gat tat ctg gag ata gct att tac tgc	1752
Lys Glu Ile Thr Ala Ser Pro Asp Tyr Leu Glu Ile Ala Ile Tyr Cys	
370 375 380	
ata ggg gtc ttc tta atc gcc tgc atg gtg gtg aca gtc atc ttt tgc	1800

Ile Gly Val Phe Leu Ile Ala Cys Met Val Val Thr Val Ile Phe Cys	
385	390 395
cga atg aag acc acg acc aag aag cca gac ttc agc agc cag cca gct	1848
Arg Met Lys Thr Thr Thr Lys Lys Pro Asp Phe Ser Ser Gln Pro Ala	
400	405 410
gtg cac aag ctg acc aag cgc atc ccc ctg cgg aga cag gta aca gtt	1896
Val His Lys Leu Thr Thr Lys Arg Ile Pro Leu Arg Arg Gln Val Thr Val	
415	420 425 430
tcg gcc gag tcc agc tcc tcc atg aac tcc aac acc ccg ctg gtg agg	1944
Ser Ala Glu Ser Ser Ser Ser Met Asn Ser Asn Thr Pro Leu Val Arg	
435	440 445
ata aca acg cgt ctg tcc tca aca gcg gac acc ccg atg cta gca ggg	1992
Ile Thr Thr Arg Leu Ser Ser Thr Ala Asp Thr Pro Met Leu Ala Gly	
450	455 460
gtc tcc gag tat gag ttg cca gag gat cca aag tgg gaa ttc ccc aga	2040
Val Ser Glu Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe Pro Arg	
465	470 475
gat aag ctg acg ctg ggc aaa ccc ctg ggg gaa ggt tgc ttc ggg caa	2088
Asp Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln	
480	485 490
gta gtc atg gct gaa gca gtg gga atc gat aaa gac aaa ccc aag gag	2136
Val Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro Lys Glu	
495	500 505 510
gcg gtc acc gtg gca gtg aag atg ttg aaa gat gat gcc aca gag aag	2184
Ala Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr Glu Lys	
515	520 525
gac ctg tct gat ctg gta tca gag atg gag atg atg aag atg att ggg	2232
Asp Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met Ile Gly	
530	535 540
aaa cat aag aac att atc aac ctc ctg ggg gcc tgc acg cag gat gga	2280
Lys His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln Asp Gly	
545	550 555
cct ctc tac gtc ata gtt gaa tat gca tcg aaa ggc aac ctc cgg gaa	2328

Pro Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu Arg Glu	
560	570
tac ctc cga gcc cgg agg cca cct ggc atg gag tac tcc tat gac att	2376
Tyr Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr Asp Ile	
575	585
aac cgt gtc ccc gag gag cag atg acc ttc aag gac ttg gtg tcc tgc	2424
Asn Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val Ser Cys	
595	605
acc tac cag ctg gct aga ggc atg gag tac ttg gct tcc caa aaa tgt	2472
Thr Tyr Gln Leu Ala Arg Gly Met Glu Tyr Leu Ala Ser Gln Lys Cys	
610	615
atc cat cga gat ttg gct gcc aga aac gtg ttg gta aca gaa aac aat	2520
Ile His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asn Asn	
625	635
gtg atg aag ata gca gac ttt ggc ctg gcc agg gat atc aac aac ata	2568
Val Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn Asn Ile	
640	650
gac tac tat aaa aag acc aca aat ggg cga ctt cca gtc aag tgg atg	2616
Asp Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys Trp Met	
655	665
gct cct gaa gcc ctt ttt gat aga gtt tac act cat cag agc gat gtc	2664
Ala Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser Asp Val	
675	685
tgg tcc ttc ggg gtg tta atg tgg gag atc ttt act tta ggg ggc tca	2712
Trp Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly Gly Ser	
690	700
ccc tac cca ggg att ccc gtg gag gaa ctt ttt aag ctg ctc aaa gag	2760
Pro Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys Glu	
705	715
gga cac agg atg gac aag ccc acc aac tgc acc aat gaa ctg tac atg	2808
Gly His Arg Met Asp Lys Pro Thr Asn Cys Thr Asn Glu Leu Tyr Met	
720	730
atg atg agg gat tgc tgg cat gct gta ccc tca cag aga ccc aca ttc	2856

Met Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr Phe  
 735 740 745 750

aag cag ttg gtc gaa gac ttg gat cga att ctg act ctc aca acc aat 2904  
 Lys Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn  
 755 760 765

gag gaa tac ttg gat ctc acc cag cct ctc gaa cag tat tct cct agt 2952  
 Glu Glu Tyr Leu Asp Leu Thr Gln Pro Leu Glu Gln Tyr Ser Pro Ser  
 770 775 780

tac ccc gac aca agt agc tct tgt tct tca ggg gac gat tct gtg ttt 3000  
 Tyr Pro Asp Thr Ser Ser Ser Cys Ser Ser Gly Asp Asp Ser Val Phe  
 785 790 795

tct cca gac ccc atg cct tat gaa ccc tgt ctg cct cag tat cca cac 3048  
 Ser Pro Asp Pro Met Pro Tyr Glu Pro Cys Leu Pro Gln Tyr Pro His  
 800 805 810

ata aac ggc agt gtt aaa aca tga gtgaatgtgt cttcctgtcc ccaaacagga 3102  
 Ile Asn Gly Ser Val Lys Thr  
 815 820

cagcaccagg aacctactta cactgagcag agaggctgtg ctccagagcc tgtgacacgc 3162

ctccacttgt atatatggat cagaggagta aatagtggga agcatatttg tcacgtgtgt 3222

aaagatttat acagttggaa catgtactac aggaaggaga ctgttctgat agtgacagcc 3282

gccaccatgc cacctttgac caca 3306

<210> 11  
 <211> 21  
 <212> DNA  
 <213> Artificial Sequence

<220>

<223> PCR Primer

<400> 11  
 acctggatgt cgttgaacgt t

<210> 12  
<211> 19  
<212> DNA  
<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 12  
gaccaccgtg gaggcattt

19

<210> 13  
<211> 24  
<212> DNA  
<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 13  
ccacaccgtc ccatacctcca agct

24

<210> 14  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> PCR Primer

<400> 14  
ggcaaattca acggcacagt

20

<210> 15  
<211> 20  
<212> DNA  
<213> Artificial Sequence



<220>

<223> PCR Primer

<400> 15

20

gggtctcgct cctggaagat

<210> 16

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR Probe

<400> 16

27

aaggccgaga atgggaagct tgatcatc

<210> 17

<211> 132762

<212> DNA

<213> Homo sapiens

<220>

<221> misc\_feature

<222> (1)...(132762)

<223> n = A,T,C or G

<400> 17

catctgtgga ctgctaccga gcgggagagg gagcgcgcg gcgcgccaca aagctcgggc 60  
gccgcggggc tgcattgggc gtacctggcc cggcgcgcg actgctctcc gggctggcgg 120  
gggcccggcg cgagccccgg gggccccgag gccgcagctt gcctgcgcgc tctgagcctt 180  
cgcaactcgc gagcaaagtt tgggtggaggc aacgccaagc ctgagtcctt tcttcctctc 240  
gttccccaaa tccgaggcag cccgcgggag tcatgcccgc gtcctctccg agcctggggg 300  
acgcgtgaag cccgggaggc ttggcgccgg cgaagaccca aggaccactc ttctgcgttt 360  
ggagttgctc cccgcaaccc cgggctcgtc gctttctcca tcccgaacca cgcggggcgc 420  
ggggacaaca caggtcgcgg agggagcgtt ccattcaagg taatcgccgc gcaagacgcc 480  
tcggggagct tcgccagccg gggacgtggg cgccacggga gcccgggacg ccgggtgcac 540  
cgtctctccg gcggggggcg cggaaggact agcattgtgg agggagctcc gtgtcctccc 600  
tctgtggctg cataggtgat gggggaggtg ggtgcgtgct gacggccggc gttctggaag 660

ttctgcctct gctaccccca tccagatgct gacatctgct tctggcggtg acgccccct 720  
ccctgtcaaa ccctggcggg cgcattcccg ctgactgggc gcgtttctcc gacccagag 780  
cagacgggcg gaaggttcgc ctgcccgtgg cacagccccg caggccggtt cccggggtca 840  
tctccgaggt gccccatccg tgtgtcctgg gaacttccgt accatccagg ccctgcggag 900  
accccttttt cgggaggggg ccgctggggg ggggcccgtg acatcccgtc ggggtggcga 960  
tggccagggg tggcactgct ggggagggcg cggctccggt gcctgggcgc ccctgccccg 1020  
cagccgcctg cggcgctgga gggagcgag tgcgcctggg gctagggggc gaactggacc 1080  
gactttttct agttcgctg cctgctctgc cgcagcggtt gggagatgct gaaagcgag 1140  
gcgagttcta acttgccgc tcattttttt cggccacggg gccgcgctgg ggaaaaagc 1200  
cgagggccct gcgtggcgct ggctccgacc ctgcgggacc acggacctgg cgcaggaggc 1260  
ccgctcgggg accaccagcc tccgtcgctc tcttcgcacc ccgctccctt gcagaccgtt 1320  
ctccagaccc tcccttcttt ctcccaattc aataaaacct acccttaaag gaaaacctgc 1380  
tttcaaaact agggcaccca ttatgtgtt ggtgtgaac gctatcaaca tttaaaactc 1440  
cattgtctcc ctgggtccaa atccctgtaa atcttcacc gggctcgact cattttcatc 1500  
tgaaaagcct gtttagttt aatagaaaag caatcaggcg cccctctctc ttcccttgga 1560  
atgtcaatta aaatgcagat ttctctgagc tctttagcgc cccgagaagg gggagaaaaa 1620  
caggatattt caggcaaa aatgaagaa gtgctgcctt gaaaggggtt ggtggtggg 1680  
agcaccccca agctgctgc aagtctgat tggacgcaag cattaaccg ggagggttt 1740  
gtggctcctg gtcagtgtgt gtttttgag atttcaattt gttgaggaat tccccctag 1800  
ccttgacccc ttgacagctc ccgctccctac tcagtgtctg ggagaagtag ggaggcctta 1860  
agcgaagaga tgggtctgca ctttgaggga gccggacact gttgactttc ctgatgtgaa 1920  
atctaccag gaacaaaaca ccagggtgat ccagtggcgg agccagcagt ggacagatca 1980  
ccccttaggt ggaagcccaa agcggagggg actgtattgg tctgccttct tggaggcg 2040  
gggttttggg aatgtcatgg taaattgaag agcccagcac aggcctggca tggggaccgc 2100  
tccgcagcca agcccttctt gcttgtcact ctgcctgtct ttgggggcag gcttgtgccc 2160  
aggtgaaat ggaccggggg gcgggcccgc gagaagagcc atccatcaga gggagggtga 2220  
caactcctcc cgcgtgcagg ctgagaagag agttcccttt caaggggaaa aataaacacg 2280  
ctggggcttt cactggggct cagactccag gaaggattat ggtattgaag gcaggaagcc 2340  
gggattgtgg ccgcccagcg catgctgggc ctgtattccc aacaccgagc ctggggacct 2400  
aattatcctg cctaggaggt cgcaccatac ttttgtccac tgggtgtgag aactgtgcag 2460  
acctgtcgc ttaggtctcc gccttccaga gttttgggga gggggctgcc gtggggtttg 2520  
gacctggaaa tggctgaaat gcaaatttct agtgccagct agcgggatga tggaaaggct 2580  
tgagattcag cggagcgccc tgtccacctt tctctgctg gagccaagga ggctcctctg 2640  
ggcagggaca ggtgggagcagg caggccgggg aaggagcctg ggggtgaaacc tctgcgagga 2700  
cttaggattg ttctgaagt cgtgttagag gttagaaaatt cccctgcatt ctgcaaagtc 2760  
ttagtaaatc aatgagaatg tttgtgtact ttcctccac atgtatgtag aaatagatcc 2820  
gaaattatct tctgaggctc ttgactaaga ggaaagaaaa gtttagagga aaaaatttct 2880  
aagctatctg aaagcacatg cacacaccgt gcacgcacac accatgtaca cacacacacc 2940  
gtgcatacac acacaccatg cacgcacaca caccgtgtac acacacacac actgcacaca 3000  
tacttttctt gcttttctg tgaatcacac cgtttcacct gtgctatctt tgaagcagag 3060  
gttttcttta ttctcctttt ggaaatgatg tggcatattc ttttccctcc tccatttttg 3120  
tccctagtea aagctaaaag gaggagtttt tatgatgaga tttggggagg ctccagcagt 3180  
gttgaaatcc tatgacataa cttgaaacat cgagtgggta cataaaaaat gttaggttta 3240  
gagatttttg tattaagggc ctccttgcca ccccgagtct tagaaaatgt ggttcattcc 3300

tgtggttcac agaactctgaa gcctgagatt gatgagcccc ttcttgtgat tgttttaac 3360  
attctctaaa gtttgtgcat ttactgtac ctttagtcac agagagtact gagtgaattt 3420  
aaagttgctt ggaatataatt aagctttctt ggaaaaattct ctttcccttg gatcaaatgg 3480  
gtgaacagaa tattaagttg agtgtcctct tctaacttat actctgaaaa ttagccagt 3540  
aggtttgcatt atggaagatt attggtccaa tcacatacca tgactataat ttacataatt 3600  
tacatcatca ttattaataa attcctgcatt tattcatcag aatttgcatt tgctcagttt 3660  
cctcacccct ctacagaggt tgaagacatt tagcagccct ggactgccat ttagtcacag 3720  
gggaaggga ttcaggtctt gaagtccttt ttggatcagc tgcgttgaat gcgctgcagt 3780  
tgtgttacct cttcgtaagt ggctgcttg cggaagactg aaagacatt ctccatttga 3840  
aaatgaatcc ttgacaagt aaactggttg gaattttctg tagccttctt gggattcttt 3900  
tgattttgct ggtctcttt cttcccaaga gcgacagtga ggggtggaga ctgctcacct 3960  
ccagcccagc agaaatacgg agctgtgagc agactcctcc aacagtttag ctttctaaag 4020  
cccagttgga ctaagagaag ggaacgaggt tggttatgcc aacccgagca tttttaactt 4080  
gctttttag ttgcccttga aactaaggtc acgttgcttc tgctcattga gggcgggtgga 4140  
ggcgatagtg gatagtagaa gagagcacac attgcctcac tgaagtggct gcacgtatct 4200  
gagtcctgta gctactgtt tatctctgtt tcttaaaagt atgcttttaa aaagattagc 4260  
ctcacacatt tctgtggacc ggtctggttg tatcacctgg gactctgagg tgaggatgga 4320  
aggatttagc agataatgaa aaagaactct gtttgcgcac atttgagagg ctgaaaaatg 4380  
gttttatccc acttgggctg gagtgtattg gcattgggga agattcccct actcgccaat 4440  
ctcttctct tagtgactgc agcagcagcg gcagcgctc ggttctctgag cccaccgcag 4500  
gctgaaggga ttgcgcgtag tccatgcccg tagaggaagt gtgcagatgg gattaacgtc 4560  
cacatggaga tatggaagag gaccggggat tggtaaccga accatggta gctggggctg 4620  
tttcatctgc ctggtcgttg tcaccatggc aaccttgtcc ctggcccgcc cctccttcag 4680  
tttagttgag gataccacat tagagccaga aggtaagtca ttaatttca cttttcaggt 4740  
ttgttttggg atttgtctgg gggcagattg ttaaggcctg ttttagaate agctaccctt 4800  
gcattgtaaa tggggcttct aagagacca gatcgtggtc tcttggtctc cggcaaggca 4860  
gagctgatga gagaaggtcc tttgccgcag cactgcagggc aggatgggat agtttgggtg 4920  
tttcttgctg tgtgtgtttc tctgtgctgg gtgagggaga cagctgggag ttggccttta 4980  
tccagtgcc gagagagctg tgaagggat gaaccttggg aggtgaatg tcatctctag 5040  
tctccccag catcattctt actgcttaca atgtaaagaa ttgctatttt cggacaagat 5100  
gaaccactaa aagaaattgc caacatctga aatgctgaca tcttattttt attgtttaag 5160  
gagaaaagaa gtttctgaag ttttagcacag agagagaggc ttgacatctc agaatttttt 5220  
tttagccatt gtaattcata atacttaagc aatgcatcat cacagagtgg cagattctag 5280  
tttaggtaaa cttgaaagtg aatgtgccag gggatctctt ccagctccga gaacctccaa 5340  
gtatcacagg gcatgcgccg gtgtcacagc tttggaaatt taattttcaa ggtgtaagtc 5400  
caattacgag gactacatga ggctgaatta ttcagcttag cagatttggga acctctctcc 5460  
cagccctttg gagacaacgt gagccaagcc tctacttggg gctgcactga aatctgtcat 5520  
cagtagggaa tattgttagc tgagttattt ttcgagtggt aatccgagaa taaaacggca 5580  
gatcccagca ctcatcgcca cttaatgaac ctgttttggt agagtccacc tgggtcctgc 5640  
ctggcttttag gaaccgcag cagtccgagt ggtgtctggg gtaagctgag ctgctctggg 5700  
aacacatctc gtgcgtgggg tgaatgaaca gcacacttac ccagtggggt agggctgggag 5760  
aggacagaga gcccgacctc cttagctgga tcaggacagt ttaggaagga ggggtgcgtc 5820  
catctgagat gagagttctg agagacatgg gctccccagg aagacccag gcacttgtca 5880  
ttgaaggatg aggaccgaag cacttatcac ctgaagcaat cgtgtgagac tggggaactt 5940

ttcgttacac agagggatgg cagctctata attaacaggt gtggtgacat ctccctgcgt 6000  
ctctgggaag ggaatctggt aggagtttgt gtctgaggct tgtatagcta cagctacagg 6060  
ccgattatgg aactgcctct tgggtgatttg tgctgggaca ccaggatgag tghtaatttgc 6120  
agtgggtgatg cattttttaca gggctttcat gtaagaggga aaaagttcct ggtttctgaa 6180  
agtcatgcct gtacgtcttt aattttgcta ataattaaaa tggatgtttc cgtgattgct 6240  
ggttttccct tgagtgcgtg gctcggcaaa aactgaggaa gctgagcttg gatttcctac 6300  
gggtgtgggtc ttaggagcaa cccagggttag ggaaaaactg tcattttttca ttttggcttt 6360  
tcagggcagc gttattgtga gtttattttca acataaagtg taaaaatggc ccagaggatt 6420  
tgttttactg tatttaattc ttgaaggaag tttaaaattg tgtatacatg caggggaggga 6480  
caggtgaggg agaggggaaga aatcgtggaa agggacgaag ttccccgagt gagtctttgt 6540  
gtaagaattt acatccaaca atgtgggtat tgttggaagc aggcctgctc aacctgggat 6600  
ctgtggatgc acttatggat caggaaggag gtcgatgaag ttctggaaat tttaggtaat 6660  
attttghtaa tgccttttg tgcattttta tgggtttata gtttccatga gctatgagtt 6720  
catttgcac cagaattatg agatggaaaa gaaaagatgt cttagaggaa ggtgcaaaac 6780  
ctggcaaaaga agaggctttg gaaaagtata caagtcccag gcctcagttt ccctttctgt 6840  
cgtctgaggg cttaagaaga tgatcttttag ggtctcttca ttaatagtca ttgaatatta 6900  
atgtcctcag aagtcttctg actcttccac caaaagggtg ttaggagatt tccatttgac 6960  
ctggacataa agagcaatta gcacaggggc tggcatccag taagcacccg gtgcatggcc 7020  
ttgtcgccgt tgtcgccagg gagctgggaa catgggtctt cccagtcctg tgggctggct 7080  
gtgccagggt ccacaatgtc aaaaaacatc taggcttttg gagacagttg agaagaaagt 7140  
tgttttttga tggaggaggc ccttggtgtt tccaggaagc tgtgtttgct ttctgtaggg 7200  
tccccacttc ccctcatctg ttagtctaact actggccact gatttgagcc ctaagaccag 7260  
ttcttctgtt gcaggagttc gctttggtgt cagagggtgat taggaaggtc attgaattat 7320  
agatgagaaa ggagttttta acagctgaaa atgggctcag gtttaggctc tgtgctggtg 7380  
aattggaaga gagagagaga gagagagagt gtgcgtgtgt gtgtgtgtgt gcgcgagtg 7440  
gcgtgcgtgc gtgcgtgcct gtgccctgt ccatcagttc tccatgatta gaactactat 7500  
agctttggtt agcagtaagt tccaccttga ccttctgtgc accaaggctt tatcttgtaa 7560  
gacttttttg tttgctaatt tatttgggaag ctgagtttag ataatgtcta ttggatagga 7620  
gaaaaatgtg actgagaagt tccaggaaga agcctgggcc ctaacactag agggtccttt 7680  
tcttttggcc cctcagggaa aggttatgtt tagtcatctt ggctttgtgc aatatcgat 7740  
catatcata gtcatatcat atatcatata tatcatttgt ctcttggaac cgttctgaaa 7800  
tagtagcagt ggggttgggc ccactcaatt gacttaagaa aataatctct agaagatttt 7860  
agtttttaat atttcagatt aaatatgagt tttccagttg gtcattcatt gtttaatttc 7920  
ttttggtcat tcattgttat agggcaccag cagaggagtg aaaacatggt tattgactcg 7980  
aaggggggca gtcctcaatg ccaagtacta ttctgttgat taacattata aatatttgaa 8040  
gtctagtcaa gcttgattac cctgagaggg ggcaactctt actttcaagt tcttctgac 8100  
attgtcacct actctggtta attaatgcat tgttgacatt aatggcatct ttgtttacac 8160  
caaccagta ggagctaaaa tgaaagggtc tttcaaccct acacccttaa ttactttccc 8220  
accctccaca gagtgtgact ctgaaaagta acaacctgaa aaaaaatgta gtttgtgtag 8280  
caattttttg tcaatcttct gagagggtgat gctctcctgg accaactgta gttggtccag 8340  
agttcagtag cagaaacgtc gaggacagga tctacacaga gacctcccta agtcagattt 8400  
ttccagtatg gtttaagtc tttgttagaa gtattgtaaa tgccataata ttaaccatac 8460  
gcatttaatt gcaagttaaa agaaaggaag aaagaatata tccgcatacc aagagtgaat 8520  
gatttaaaat aatcttctgt ttcgtattat ctgcatctt gtttttcaat atgagtgtta 8580

atattttaaga gttgactgta acttgatagt tagcttttga acaaggactt attcttggtc 8640  
aattaaacca aatacaggct tacgcagtta aatacacaat gaagtacaca tctcttatta 8700  
gtatataaag tgtttcacaa ttcatagacc aagagccatg tttaatatta cttatagagc 8760  
agaaatctgg caagcccaga gaactggtag ttgtatcatt ttatactggc tctctctgat 8820  
tcaaatattgg ggtatatgtg tgtgtttctg ttttgtctgt ttatttcaac cagttaaaag 8880  
acagagcact tactatgcca atggcccccgc atcaagccat aagtaaagac tttattcctt 8940  
tcaagtcttt ctgacccagt tgagggtgag aattcacaaa accacagcaa tccaatatga 9000  
gatgttttta atatcagact taacaaataa ttacatggct atgaaataac tggggctcgtg 9060  
tttaaactgg aagtgttttg tttaatgttc gtagtttcaa taaaatgtat ccactagtct 9120  
tccagtttgc agactgttgt ttaggtgttt gtttagccag ggtaattgtt aaaaactccc 9180  
tctaacttag cttaccctta catttccatg gaagcgaatt ttagtcatta aaggaaaaca 9240  
tgggaaattg atttttgggt gcctggctgt taagctaggt aggaaatata gctggtgtgc 9300  
tactctccac tgtactggtc cgattctcgc cagggggaca tctctgtagg cagttcagaa 9360  
attatttttt ggaagttttt taggctattc cacagataat tctgatccag taggtttttt 9420  
gcaactgtgc aaaatgtcta tggctctctat ttttttttcc ttgagagatg attttagcct 9480  
ttggtttttt gtttgttttt gttttttgag acagagtctt gatctgccac ccaggctgga 9540  
gtacaatggt gcaattgtac cctcactgca ttgtcaaacg tggctcactg taccctcgga 9600  
ctcctgggct gaaggggtcc tccaacctcc tgagtagctg ggactacagg cctggataat 9660  
ttttaaaaat atttctgtag tatgggtgtt cgccatgttg ctcaggctgg tctccaactc 9720  
ctggcagcct tggcctccca aagtgtctgg attacaagtg tgagccacca cacctgtcct 9780  
agccttaagt tttgcatttt ttccatctt tttgctgtat cccatattgat ttagagattt 9840  
ttgctgtatc ccatgagatt tagagatggc tctacttttt ttagctttcc tagcattgaa 9900  
atgcttgggtg ttgctaatac taccatctt ttaccacacc atcttccctc ctgacttgcc 9960  
ttcttagtgt agtttggtea agaacttgag gccaaagtct .ttttttttt aaatttagct 10020  
tttattttag gtttgggggt acatgtgaag gtttgttatg taggtaaact cgtgtcattg 10080  
gggttcggtg tacagattgt ttcatacccc aggtattaag cccagtacc aatagctatt 10140  
ttttctgtct ctctctctcc tcccaccac cctccaccct caagtagacc tcagtgtctg 10200  
ttgttctttt ctttgtgttc atgagttttc atcatttagc toccacttat aaatgagaat 10260  
atgcagtatt tggttttctg tatttggttt attgctaagg ataatggcct ctagctccat 10320  
ccatgttctt gcaaaagaca tgatcttgct cttttttatg gctgcatagt attctatgtt 10380  
gtatattgtac tacattttct ttatccaatc tgttactgat gagcatttag gtagattcca 10440  
tgtctttgct atttgtgaata gtgctgcaat gaacatttgt gtgcattgtt ctttatggta 10500  
gaatgattta tattctctct ggtatatacc cagtaatggg attgctgggt cgaatggtag 10560  
ttctgctttt acctctttga gtaatcgcca caggctttc cacaattatt gggctaattt 10620  
gcactcctac taacagtata taagtgtttc cttttctctg caatctcacc agcatctatt 10680  
attttttgac gttttattaa tagccattct gacttgtgtg agatggtagt tcatcgtggg 10740  
tttgatttgc atttctctag tgatgagcct tttttttcat atgctggtgg gacgtatata 10800  
tgtcttcttt tgaaaagtgt ctatgtcctt tgtctacttt ttatgtgggt atttgttttt 10860  
ctcttgtaaa ttttaagtcc ttatagatgc tggacattag atctttgtta gatgcatagt 10920  
ttacaaatat tttatcccat tacgtagggt gtctatttac tctgttgata gtttcttttg 10980  
ctgtgcagaa gctcttaagt ttaatttagt cccatttgte aatttttgct tttgttgcaa 11040  
ttgcttttga tgtctttgtc atgaaatctt tgcccattcc tatgtccagg atggatatatt 11100  
gcctaagttg tcttccgggg ttttatagtt ttggatttga catttaagtc tttcttccat 11160  
cttgagggtga ttttttgat atggtataag gaaggggtca gcttcaatct tctgcatgtg 11220

gctagccagt tatccagca ccatttattg aatagggagt cttttcccca ttgcttggtt 11280  
tcatcagttt tgtcgaagat cagatggctg taggtgtgcg gtaggtgtgt ggccttattt 11340  
ctgggctctc tattctgttc cattggctca cgtgcctggt tttataccag taccatgctg 11400  
ttttggttac cgtagcccca cagtatatgt tgaagtcagg taatgtgatg ccccagcgtt 11460  
tggtattttt gcttaggatt gccttggtca ttcagaggct aagttctttt aaggagaggt 11520  
ctgattgaac aagatgctgg acaggctatt gtggtgatcc ttcacgtctt gaagatgtct 11580  
cctctgttaa tagacaaaag tcacactttt tacaagtttc tctttcctca ctgtgatttg 11640  
tatgtggtag ctgacttcta tttatataac ttcaagctct taccatttaa atatttatac 11700  
acaagtatga atcattggga caagccatgg ccacccctga agagtgtgtg tcaagtaaaa 11760  
taggcgtgct ttagattttc agtaattttg gttttgggaa accggtacca tggaagagct 11820  
ttcagatgct gaatgtgtaa tttactccac tttggaatac tgtaagtaat tctgcgccat 11880  
tgtggacttt ggcacacatca tgccactctc aaaaacttct gattcttttt gacagtacca 11940  
agtcaggggg ctaagctggt gtatatctt tctttaacc ccttgtctaa ctaaagaatg 12000  
gtaaattcca attcatttca gaatggaatg cacacatata gagtttcagg ttatgtgtaa 12060  
tgtgttttat gaggaggcta aaaatagctt ataaggaaaa tgcgtataga ttcaagaacg 12120  
agaacaaggg atgtatttat ttgtatgatt tatgtagcgc ctttcttgga gaggactcaa 12180  
ttctgagctc taacgttaat aaactctata tcaattatcg tgattatttt cgaacccttg 12240  
agtcctata ttactatatg tgaccattt gtatacctga cagtttactg ttaaattttc 12300  
catagtacc agttgtaata ttttaaagt atccagacat tgaaaaggcc aactgtgtgt 12360  
atctatggtg tgtgtatgtg ctacgggggg tgtactataa aatgaatgac aagatcattg 12420  
caatggttaa gtttaggtt taaactcttt gaacaccctt aaagttcaga ttttcagttg 12480  
acagtgggat tgccccc aaaactcttt tgccttaagg agccttcttg tctgtctaag 12540  
cctcctggat ttccaccaat gcatgttgca tttctacctg gctgcaatag acgcacaact 12600  
gaatatatat cgtggacatt tataaatggt tcaaatttaa aaccactcaa atttttaaaa 12660  
gaacaagaat cttctgtgca tttaatctaa attctgtatc agccattctt aaaaatagaa 12720  
ttgaataaaa tcattttgga tggcatgtgg tatgctttct ggagacataa actaacagag 12780  
ggaaactgac ctggggaggt aggtttgaat ctctctacta tctactgatg ctgtgatttc 12840  
agaaaagtta gataacctct ctgagcctca gagatagtat ctactctgaa ggggtgaatgt 12900  
gcagattaaa tgcaaatgaa atgtaaagcc cctactgaat ttcttgcccc agagtaggtg 12960  
ttcattaaat gctgatttct tccctgtccc acttctctgc aacatttctt ggaccaacaa 13020  
gatgtttact ctacaatatt accaatattt cctggaccaa taagatgttt actctacagt 13080  
gtatagtgat aattgtctga tgagaagcat ttacattaat taaaatgtaa aactggctct 13140  
aggccctgga ttgtccaac cctttttatt atcttgggct ttgcaagtc ccatggattt 13200  
tagaaaatgg atcatcctgc tgcttgacgt ccaaaggtt caaggttgaa attttttttc 13260  
ccctctgttg aaaaaagtca gttgcagctc tgtaataata acagcagaca catacttcat 13320  
gaggaacaat gtattttggc aaaagagttt tctgtttgaa gtttcaaaa acaaaatact 13380  
ctgccacatt gccattaggc ccggcgaaga acattggaga ggggttatgg aatcggttg 13440  
ggtgggtgct gggatggaga ggggttatgg gatcggttgg ggtgggtgag gatggagag 13500  
ggttatggga tctgttggg tgggtgctgg gatggagagg gttatgggat cgggttgggg 13560  
gggtgctggg atggagaggg gttatgggat cgggttgggt ggtgctggat ggagaggggt 13620  
atgggatcgt ttgggttggg gtgcgggatg gagaggggtt atgggatcag ttgggttggg 13680  
gtgtgggatg gagaggggtt atgggatgg ttgggttggg gtgcgggatg gagaggggtt 13740  
atgggatcgg ttgggttggg gtgtgggatg gagaggggtt atgggatcgg ttgggttggg 13800  
gtgcgggatg gagaggggtt atgggatcgg ttgggttggg gcgggatgga gaggggttat 13860

gggatcgttt ggggtggggt gtgggatgga gaggggttat gggatctctt cgggtggggt 13920  
gcgggatgga gaggggttat ggcacgcgtt ggggtggggt gcgggatgga gaggggttat 13980  
gggatcgttt ggggtggggt gtgggatgga gaggggttat gggataggtt ggggtggggt 14040  
gcgggatgga gaggggttat gggatgtggt ggggtggggt gcgggtgtgt gtgttctgtc 14100  
tttgccagg ctggagaggt gagctccata acatggatg gtcaccttg ccatgtttgc 14160  
ctgtagtac cccccctgaa cactcctaga tgagattttt gtctgcatgg aagggagctc 14220  
aaggaaattg tgatgggacc cacagtactg aagtggacag gagctgaaca agcatttgca 14280  
catgataccc ctatggagggt tacttggtag gacaggctat gaagtagggg cagtatggat 14340  
gaggtcacgt ttcttttagc cattcctga gatgatgat atgatgatg tgatgatgat 14400  
aactggctac catttattga gtgcctgtca tggttggact ctgtgctagg tactttaaca 14460  
tatattatct ctcactttaa taaccagaa catcttgggt ttctctgtt ttattttatg 14520  
gacaaggtaa ctgaaattct tggggatcaa gtgactctc caggacctca tcattagtga 14580  
gtgtgggccc aggtcttttg gtgaatgtgt tgggtgaaga aaaatttccc ttcttctga 14640  
gcaggaggat tttttttttt tgctggagaa tgtggtgacc cctcattctt tctaaatct 14700  
gtcgtttgac tattaacct gttagggaca ctgctggtt attctgtttc ttctcacac 14760  
atccataccg aattctccta aagacatttg aagaaaaatt ccagacaata aaaatgttta 14820  
atgattatc tttgtgattc ttctagaatg gcttctggtg gcattgtgat tattggaaag 14880  
aggctaacc tgactgtgc caaggagacc aatgggagac tgggtcccag ttggtggtcc 14940  
aggctgcgc acaccgtagg agtccatac aagaagggt ggcctctgtt gccctgtgat 15000  
gcatgagcca tctcagcaga gcaggccgtc cccagttatt ccttgtecca gatgctctg 15060  
ctggtttgtc ctagtgcctg ctaaccctca gctgttgcca ctggatatt atgtcaagct 15120  
ttcttccca gaatttctga ttacgactg ggtatgaagt caaggctac ctgcatagac 15180  
agaccctgt acttgggact cccacgaact gtggtcatgg aaacaagcac caaggactac 15240  
ctgacccttc taatgtcact ttctgcaga gattaggagg agagactaag aaagccaaaa 15300  
aagaaaaaat tccaagaatg aaaaggccaa aagcagaaac acctactctt ctccagttc 15360  
tggccagaaa ggggtgcctt aggggaaaaa aagaggccag ggaatggagc ccatttttaa 15420  
agcaagcaaa gatcagtttg gtatttaaaa ataaaaatg aactccagta ccagctaatg 15480  
tgtaggtgaa tgcaggctgg tttaggcagc tgaactttgt tcttgctac ctgtacagca 15540  
gttgcaaac actcaggggt tccaggcatt tccaagtggg agttgagtt ttgaggaaag 15600  
ttgtagaatt cctttttctt ttttttctt tttgtgaga cagagtctct tgcctgtca 15660  
cccaggctgg agtgagtggt tgcgactctg gatcactgca acctctgct cgcgggttca 15720  
agcgattctc ctgcctcagc gtctagagta gctgggatta cagatgtgca ccaccagcc 15780  
cggctaattg tatttttagt agagctgggg ttccaccatg ttggtctcga actcttgacc 15840  
tcgggtgac caccacctc agcctccaa agtgctggga ttacagtggt gaaccaccgc 15900  
acctggccgt agagtcttg actaggagat gctgcaaatt tccctcttaa atttgagct 15960  
ccccgtgca tgacaacttt cagagcttg cagaggcaag atggtataaa catgattttt 16020  
agattgcagg gtaattgctg tggtttctt gagtttttc atccatttg tccccaaata 16080  
atttttgaga cctactatgt gccaggttct gtgggatggt aatagcaagc aatgaacagt 16140  
tgagtggggg agacaggctc ttgtcaaata attgcaaaaa tgaagggcta ggactgggtg 16200  
cagtggctca cgctgtaat cccagcactt tgaggggccg aggtgggccc atcatgaggt 16260  
gaggagtgtg agactagcct ggccaacatg gtgaaacgtg gtcttacta aaaatacaaa 16320  
aattagccgg ggggtgggtg aggcacctgt agtcccaggt acttgggggg cggaggcagg 16380  
agaatctttg aacctgggag gcagagggtt cagtaagctg agatcacgcc attgcattcc 16440  
agcctgggag acagggtgag actctgtctc aaaaaataaa aaaaaaatca aaataaataa 16500

acaaaaataa aaaatgaagg gctaggtcca gtcaaagggtg aagattctgt gaaggaaaag 16560  
catggggccgg aggcattgtgc cccatgttta ggagttccca gggactggga ctatgaagct 16620  
gctgctgctg ctgctttttt tttttttttt ttttttttta aatgcagggt ctctctctgt 16680  
tcaactgtgc acccaggctg gactgcatgt gtgcaatcac agctcattgc atcctggacc 16740  
tcctgggctc aagcggctct cccaccttag ccttctgagt agctgcgact ataggcgacg 16800  
gctgattttt cttttttctt tctttttttt tttttttttt tttttggtag agatgggttc 16860  
tcaactgttg cccagcctgg tctcaaaact ctgggctcaa gcgacctcc caccttggcc 16920  
tcccagagtg ctgggatcac aggtgttagc tccccagca aaccacactg cattgcaagg ttgacctca 17040  
ggaggtggca cccacctgga tccccagca aaccacactg cattgcaagg ttgacctca 17100  
tcagtaccag ccacctggc tgcctaggtg acccttgtcc agtgagggtg tttccagggt 17160  
cctagcctct ctgctgtccc ttgctggctt cacctgttga tgtgatgga ggtggagcag 17220  
aggccgttga gtgaatgcgt gcagctgggc tcagaggccc ctcttctccc ctctgtgag 17280  
gtgcttgccc ttgaagggtg ggcgagttag gaggccgggtc aagggcaccc cggcgccctc 17340  
caggccgtat ttgagtgggt catttcagcc tgcctcctat ctctttctg ttactacctc 17400  
taattggcag agtttcttg cagggtcaatg tggaggcaga gagatggcgg gaggcgccgc 17460  
aggggagtc gggcagggtg gggcaggatg ggattctgccc tctcccagg tgcctcgctc 17520  
gggggatgccc ctgtcccaga aagcctacat tctggggagc cggcgacacg ccttctgag 17580  
atctaaagct tccctctgaa tgctgctttg gaggattgtg agaggtatgt agcagggag 17640  
gtttgtttgt tttcttgaag cttttacctc tatgcaaata tgcggtttg agcagggag 17700  
aaaggttaac tgtgatggcg ccggctctta acgtggaatg tctgaatta atgtgggtt 17760  
cagtcctctg gtcaggatc cctgaggga gagttttct ttcctctgca aaacacagga 17820  
gaaaagtgt cctgtggct ccgacctgcc ttccttgggt cctgcggtgc aaaaccagct 17880  
gggaccgtgt cccgcccacc cgaaggcagt gtggggaacc tttctccag gtcatccca 17940  
ttcagctgat tgctgccggc tccccaggcc acaactctgt gccttcaggc gtctgcacgg 18000  
gtttcgagat gctggccagg cctgaacttg gtgagcctca agcagaccgt tcaaacccat 18060  
tcaaatgagg aagaccatct gtttcccagt ctccagctgc tgctgttca ttgcaaatg 18120  
gctgggatgc tgctgagggg atcaggcggg gacacatctg cagactctga aggagtgtt 18180  
gaaccgagat cctgctgaga gaagaaaggc cgagccctt aaatcaactt gccaaacagt 18240  
acccccagaa ggtcctgagt tgagaaagca ggaggcagcc ttgcccctct ggaataactc 18300  
ttaaccttcc cttttctttt gtgaccttg ccactttaaa agtatttctt tattcagaaa 18360  
gtgcgcagtg tgggagggcc tgctctatgg gcttggggga aaatgtcaaa cgggatctgg 18420  
acatctatct gacctttcag ggccatacag ggcaaagcta tccgctggag tatgcacat 18480  
ttattgaatg tttacatcaa tatcagggtg gtgagcttgt cccagcagca gcttctagga 18540  
gccacaggta acagtaagtg tggcaagggt actgtccctg aaaacctgct tctggaatga 18600  
gtcaggcttt aggttatgct ctctggaatg caggccagcc gccccaactc gcagtaacgc 18660  
aggcccttag ctctgtggac tgcgtgaggc acagctgtgg ggactcttgc ccatggttt 18720  
gtgtttgcag ggttattctc ggcagtctgt ggggctaggg taagtattcc ggctcctgag 18780  
ccctgctggg gttctcatct caagggaatt ctgtggtgtg ttactgtgcc ccacatgcaa 18840  
atatcagcta ctctcaaatg tgttgatggt atgaatagta gaaggtattt taagaagcca 18900  
caggcctctt tgtaaatata acaggcatca tacatgggtg ttgataatga tgaatctcac 18960  
aaaatcttca gatgtttagt ctctgggaac attccaggaa tcttcattta ggtaacttat 19020  
atgtgatgag acctatttgt tcacttgaaa gaaaacctgt tttgaagtca gaggaatgcg 19080  
aatagaggct ctacatgggt tggaaaaagc aatctgcagg ccagttacgc cccgtaaaaca 19140  
ggaacccagg actgcccctc tggccagggc tgagttgcag gatggggacc cccactacc



tccaaccgcc cgccaggatg aggagtgcct gctctcagac gtgcccctca ctttaaatat 19200  
acagaggcct tcctaggcag cctttgattg tgcctctgtg gtgaccttgc cctgcagcag 19260  
gcagcactgg agatgttttt ctctctctca aagcatgact ctgaggctca gcggtgtgag 19320  
gctgtccaag ctgacacgtt cactactggc agaggcggtt ctcaaagtct catccttgga 19380  
cactggagct gaacttcttg tagtgtgggt cttggaccag cagcatcagg cctcacctgt 19440  
gggaaataaa gaatgtcagc ccgcacctgc aggcctactg acccagaatc tttttttgtt 19500  
tttccctttt gagacagact tttgctcttg ttgtccaggc tggagtgcga tggcacaaac 19560  
ttggctcact gcaacctctg cctccgaagt tcaagtgcatt ctcttgctc agcctcccga 19620  
gtagctggga ttataggctc ctgccaccag acctggctaa tttttgcatt tttagtagag 19680  
acagggttcc actgtgttg ccaggctgtt ctctacctcc tggcctcaag tgaccacct 19740  
gtcttgccct cccaaagtgc tgggattaca ggcgtaagcc acagcgccca gctgaccag 19800  
catctttgga agtgggagca aggaagctgt cttaaaactga ccacgtggtt ttacgcacag 19860  
taaagtctga gaaacattgc attgatccct actccagtc ctctccgtac accttttggg 19920  
tggagtgggc tggggacgca gactgtcttt ggctgtgcat gtccatagagg ctgaacagga 19980  
cgagatggga gcagtgcagt gtcttaatgg gaatcgggat tttcacggag gagctgttg 20040  
aactgggctg aataggagcc tgccaggcag cagagctggg tgggcttcta ggtagaggga 20100  
acagtgccta tgtggacagg taagccagag tgtcagagag agggatgtgg ggcttgagc 20160  
aaccaagcct caatgcgccca tgatgttctt tgggttttat tctctctgac tttggagtgg 20220  
tctgtgcctt tttaaaagag tagagatcat gtgcttttca gaagattcct ctgggggtct 20280  
gcggtggcta caagaggcgc acctgggtg atgggttagg cgcattgcag aggtcttgt 20340  
gaggactgga ggagacctgt gggatgcagt tttgcctgta ctttcttca gagctaagct 20400  
ttctatcagg gataggccta atagggaag ggggtgtggg actgatcaga ggaaggcca 20460  
gaggaaaaga ggggcttcag ggcgacttg gagcttgggc ggcagtccag tgggtgact 20520  
cccttcctg tgtaagagaa gaggtgtgtg gaggaggagg aggttgaagg tcaactgtct 20580  
gttttgata cgacctctgt agacatccag gttatgtatt tcctcccccc gggcaggtgg 20640  
aaatatgaac ctacaagcag ggacttgagt ggcatctgcg gggaggagggt gggaaaagcc 20700  
acacgtgccc agggactgg aatgcaggga aaggaccaga agagccagag gtagaattct 20760  
gggtatatcc atggatacag gagggggtggc aggggaaggag aaatttccca gaaaggcgag 20820  
aagtcctcct tgacatgttc ctgtccataa gaacacatac gcacatgtac gcaccagcag 20880  
gaagcagaat gctaaccgaa gataattaac ccccaattct gtgttaggga ttgagaaata 20940  
gaccaggagc cctgccccct cctctctcat ttcctgacct tccacctga gaagacctgg 21000  
ctaggcagcc ttgctttttt tctgttttag cggaggagtg aggtattcag ccggaaggtc 21060  
ttctgtatgg cagatgtgta agtccagac attgtgtctg gtgcctctct tgcctatct 21120  
catttattat tgttctgtct ccgaggactt gcctcaaggt catacgatt gtaagtggca 21180  
tagtctcggg gtacgtgaca ggtctgtttg gtgtctctct ctctctctct ctctctctct 21240  
ctatatatat atatatatat attttttttt tttttttttt ttttttgaga tggagtctcg 21300  
ctctgtcatc caggctggag cacagtggcg tgatcttggc tcaactgcaac ttccgcctcc 21360  
caggttcaag cgattctcct gcctcagcct cccgagtage tgggactata ggcgcctgcc 21420  
accatgcccc gctaactttt gtatttttaa tagagatggg gtctccccca agttctggga 21540  
ctggtctcga actcctgacc ttgaatgac cacctgcctc agcttcccaa agttctggga 21600  
ttacaggcat gagccaccat gcccggcctt ggtctgtacc tttaacaccc ccagcctttt 21660  
ctgaagagtc accagagaag ggacaaaaat gaggccatag ccttactgct aagggaccat 21720  
gagaggcttg gggtagct gtctgttgag acaggtgctt tactactttg taagatgaag 21780  
agagctgcct ctggctgagc actgtcatta ggactcaggg aatggaagt ttttgagacc

agaggggttca gtttcaggac tggagatcac aatgcattca ttttacagag tgacaactct 21840  
gtaagggccac tcttcaccct aagattgggt cattaagggc caggcacatc ctattcactc 21900  
cttcacctcc ttgtgagccc cccacatgcc ttttgatgaa aggggtttcc ccagaacagt 21960  
gtgtcccaag aagccctgaa gggctggaga tgtaccagct ttctctgcta tgtccagcaa 22020  
gtgtattttc agaaggtagg aggctcgggc tgggctggcc aggcagccag gcacacagac 22080  
tcctcattgt acatccaagc cggggcgctg aggacttcaa catagcttgt aacgtaagta 22140  
tctatttctt gggcgctaca tgatctaatt gcctgtcgct ttgggaaatg ctttctgaac 22200  
aaaagactcg atttatttat ttatttattt ttgagacgg agtttcgctc ttgttgccca 22260  
ggttggaggg cagtggcgtg atctcggctc acggcaacct ccaccgccc ggttcaagcg 22320  
atttctctgc ctacacctcc ttagtagctg ggattacagg cgtgtgccac caccgcccgg 22380  
taatttttga ttttttagtag agacgggggt tctccatgtt ggtcaggctg gtcttgaact 22440  
ctcctgacct cagggtgac accctccttg gcctcccaaa gtgctgggat tacagatgtg 22500  
agccactgcg cccggccttt ttttttttta aattattatt atttttattt atttatttat 22560  
ttttttgaga tgaagtctcg ctctgtcacc cggctggagt gcagtggcac gatctcggct 22620  
cactgcaacc tctgcctccc tggtttaagc gattctcctg cctcagcctc ccgagtagct 22680  
gggattacag ggggtgcacca ccatgcctgg cttaattttt gtatttttag tagagatggg 22740  
gtttcaccat gttggccagg ctgctcttga actcctgacc tcagggtgac caccgcctc 22800  
ggcctgccaa agtgctggga ttacaggcat gagccaccgc actcgccag gactcaattt 22860  
tgaagttctt atgcaagcaa agtgcccat atctaggagt ttatgcacac agtactgatt 22920  
caatacctgc gtcttagtgg tccatcagga atttttact catgaaatat gactttaata 22980  
cacgtgttgg gaccagagag aaaaccttcc ctctgtgcat ctttttttgg agaacactgt 23040  
catgaacagc cgaaaacatc agatcaaaag caagagggat actgacaaaa caggggagtgc 23100  
ggatttccac tgtgggtggg gacattggga gacacgggtg ctcaactcct agtaagtgc 23160  
ttcttaggct ctttactctg tgtgcatttt tattttctca tgggcaacaa tataatttct 23220  
ttcaaacatg aagagccatc cagcatgttt ctcaaaggca gacttaaatg atatgagggg 23280  
tgtgcctaaa tatataattt ttaatgggta ccatattgga aacattagcc atgatcccat 23340  
ctgatgacta ggaacatgag ccagtctgga gtttctggag aaatccagct accgctgcag 23400  
aggcggtctg tagctgttgt taccggcatc cttgttagcg accagggagg tttcagtccc 23460  
gacttgtgtc taccagacac cctgacaact ggttagaaag agaggactgc accctttcat 23520  
cctgcgtact tatctgttgt ttgttgcttt gacttctttt tgttctccgt ttttatggtg 23580  
gcagtatttc tcgaggtaga gaactttcac ctttatattg tgcggagtat ttgtcccttc 23640  
ctcgccccct taaagaacac gtagtaccta tgccttataa ggtctctgtt tgatgtgagg 23700  
aatttgggtc tcttgcaagt cggctcttgc agagggggagg ctttgaggat gtctgggctg 23760  
cagcaggctg tcttcgttgc tgtgtacaca gccctcatgg cagggcattc aaaggtgggt 23820  
ggttctgact tcaatggcgg gactccattg cctttatttt ttaatttaat tattattatt 23880  
attattattt ttgagatgga gtttagttct gtcaccagg ctggagtgc gtgggtcgat 23940  
ctgggctcac tgcaaccccc gcctcccgga ttcaagcaat tctcctgcct cagcttcccg 24000  
tgtagctggg actacaggca cacaccacca tgcccatcta atttttgggt ttttagtaga 24060  
gacgggggtt cgtcttgttg gccaggccgg tctcgaactc ctgacctcaa gtgatccacc 24120  
tgccctgggc tcccaaagtg ctggtattac agacatgagc caccgcacct ggcttccatt 24180  
gcctttattt ctttctgtcg ataagtctg atgccagtga taccagatt gtgccatagg 24240  
aaagaggggg ctgggctctt ccagaaacct tatcttgag aaatctctct tctgttctta 24300  
cggacagaga attgggtatt gaccagtgag gacttcttac tgggactggg cgtggccact 24360  
acaggacatc ttccagacta agagggccag ttgggggtta ctggaccagg gaggacagtg 24420

gcggccactt acttgccatg tgctttgtgt gcagtgacta tgtagcgaca tttgcagccg 24480  
gactgtgttt ctctgtaga gacactggca gccctacagc cctacagccg tgacatttac 24540  
tctgtacaag gtggcaggag gtgtgggagg gcaccgggaa ccgaaggcca ttttactacc 24600  
cttcccgcag cgctcctgtt acagtgcctt tgggagtcct agctgtgcct ccagggtacaa 24660  
acgggtttct tectgcaacc cacaaccctg acaggacatg cctcccgggt gtgctcctaa 24720  
cctgcctctt ctctctgccc ctcccctttt ctctctctcc ctcccctctt ctttcttctt 24780  
cttgcccttc tcttcttctt tctcccctcc totgtttctc tcccctctt tctctgtct 24840  
ccgtctcttc tctctttttt ccccctctcc ctctctttca tcttctgtc tcttcagag 24900  
gagtctgttc agggatttct ttctctttt cttcttctg gaggaatgtg tttagggatt 24960  
ggacacctct gactttggag gagggagaaa cctcagtggg atgggttcca ggacgacccc 25020  
accgatacct tggaactagg atgatctaga cgttggaata gacaccatcc ctgggaaacc 25080  
ccagaaaagg ctttaattgt gaaaagtaat ggaggagct gtgccgttg tagaaactgc 25140  
ttttttcttc cttaacagtt taaatctgtc gtccattctc cgtgaagtga ttggacgggg 25200  
caagactcag gtttcccatc tgttctctgt ttgcatttgg gcgccatttc aaaaaccaca 25260  
cgggaaaagt ttataggcaa acattataaa aagtgcagct ctgaagtgtc gctatcgctg 25320  
gtttggcaac gtaaagtgtt acctgaaata gcttaccgtt tccaaacctt tttgctgttt 25380  
caactgtctc aagacaaccc tcccgtgag atgggtgaga agtccagctt gatgtgtgca 25440  
gtgaagtcac ataagtcaca gccctttttt acttttataa gatttcccc tctgtgggt 25500  
atcttcacac acagcgagga ttttttctc tctgtttact tatagagagg taaattcatg 25560  
cagcttgtgg ctagtggcac tctgtgtgat gtcaaatggt ctgctgaggg gctcggagag 25620  
tcaggcagcc ctgcctcag tttctctctc tcccagtcag gaggtctat gagctccaa 25680  
ggaataacag gatggttttc ttagggaagg aaggccaggt caaggcagga attactcaca 25740  
gctcatgtgc agatgcctgt tgttattcat actatttatt tatttgtgtt tttttttgt 25800  
ttgagacagt ttcactcatg tcgcccaggc tggagtgcag tggcatgtgc tcggctcact 25860  
gcaacctcca cttctgggt taaacgattc tctctgcct cagcctccca aatagctggg 25920  
attacaggca catgccacca cgcccagcta atttttata ttaatatag atgggtttca 25980  
ccatgttggg gaggtgtgtc tcgaacttct gatctcaggt gatccactcg ctttggctc 26040  
ccaaagtgtc gaaattacag gcatgagcca ctgtgcctgg gctacttatt tatttttga 26100  
gacaggttct cgtctcgtg tgtcaccag gcaggaatgc agtggcgca tcatagctca 26160  
gtgcagctc tggggctcaa gcgactctcc tacctcagcc ccctgtgtag ctgggactac 26220  
aggtgtttat catcattccc ggctttttt tttttttt ttcattttt ggggagagag 26280  
gatcttacta tgttccctag gctggctctg aactcctgac ctcaagtgat tctccacct 26340  
cgacctccca aagtgtggg attgtaggca tgacctgctg tgcctggccc atttattttt 26400  
tgattagctg tacaagtacc tgtctctctc atttttaag tatcaaaaca gtcaattttt 26460  
ttttttattt tttttttgag atggagtttt gctcttgtt ccccggtctg agtgcaatgg 26520  
cgtgagctca actcaccaca acctccagct ttgggttca agcgattctc ctgcctcagc 26580  
ctcccagta gctgggacta taggcatgcc ccacctgcc cagctaattt tgcatttctca 26640  
gtagagacgg ggtttctccc tgttggccag gctgggagc aactcctgac ctaaggatg 26700  
ccgcccgtt tggcctccca aagtgtggg attacaagcc ctaaccagg tgcccggcca 26760  
accactttg gtcgttgggt ggttgttag tagattttaa aaaagctttt tgtggccaag 26820  
ttcggttgct acagctcttg gttattacca cttttggatt actgacgcaa ttcgcctac 26880  
cccgaagttt tatacaattt tggattggct ctgcaccacc ctgaaatgca accccctga 26940  
gttagcctgg aacttgcgga tcacaaaacc cccatttgtt tcccggggcc tctgtatcg 27000  
cgaattttac ctacttatga caacaatatt gtatatccac aaaccttct ttaaggactt 27060

ggttcaaaaca agtgttttcg aacatccatt ggatagagcc agagatacac tttcgtcgtt 27120  
ggttaaactt atggcaatga gatatgcgag tcagctcttc ccataacta ttaggcctaa 27180  
ccacaagggg atatatggct cctcttaaac ttttctagaa aacataaaac agattttgta 27240  
aaaattatct ctcccccgta gagcctattg ctcaatcttn nnnnnnnnnn nnnnnnnnnn 27300  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 27360  
nnnnnnnnnn nnnnnnnnnn aagacaccct gtctctacta aaatacaaca acaacaagag 27420  
aattcccagg cgtgatggca tgcacctgta atcccattac tccagaggct gaggcaggag 27480  
aatcacttga acccaggagg tggagcttgc agtgagccga gatcgacca ctgcactcca 27540  
gcctggggaga gagcgagact ccgtctcaaa aaaaaaaaaa aaaaaaaaaa aggccaggga 27600  
cggtaggctca cgcctgtaat cccagcactt tgggaggctg aggtgggctg atcacgaggt 27660  
gaggagatca agatcatcct ggccaacatg gtgaaacca ccccgctct actaaaaaaa 27720  
ataccaaaaa ttagccagggt gtggtggcag gctcctgtag tcccagctac tcaggaggct 27780  
gaggcagggt aatagcgtga acccgggagg tggagcttgc agtgagccaa gatcgcgcca 27840  
ctgcactcca gcctggggcga caaagccaga ctccgctctca aaaaaaaaaa gaaaaaaaag 27900  
gctgcttgct aacacgctgc tgggtacttcc caagtatttg aaacttcttg gagaaaaattc 27960  
acgtggatgc aactgagctt tatgcagcag ggctgcagta gtgtggccac ggcagtagaa 28020  
acgagtgttg agctgtgtcc caggaaggag acttgggtgc ttgtttgttt accagtttta 28080  
ggaaacagtg acaaagattg gccaaacta ctgtgaagct tgcttgcttc ttttcgactt 28140  
ttaattcata ttgcgaaaaa tacatggaaa catattctct gtcttgaggaa gcctctgaaa 28200  
gagcatttgt gcatagcaag gcggcttctg gaaccttctc cccattgcgt tttggcagga 28260  
gatgaggaga tgttgggctg tgcacccctg gtggattcgc acaggaaagg tgaaggat 28320  
gccacagcaa tgggaaaaag taaatccagg aagtgtcac atgactataa aaggagtatt 28380  
gtacatttcc tggggaattc tttgtctttt cacagagcag gctgtgcagc ctggtggagt 28440  
cagggagagg ttgtccatcc atgggggggt accagagtta gggaggcccc ttgacatg 28500  
caggcacagg ggattctctg attgtcctgg ctccgcgcag cctggggcca ggtcagtaca 28560  
actgtgggga tgaacatgga gggctcagg agtgcatgtt tgcaggaggt gggcagcggt 28620  
tcaggtcacc tgcagcattc aaaccagaa gagaagctaa gccctgtgga cggcaaatgg 28680  
acccaaggac acgggcaggg acagagctgc ttccactgag ccagctgtta ggtgcttgtg 28740  
ttcttgcccc cctggccggg gttgtctttg atatgtgtcg tgtgtgctgg gccctgcagg 28800  
ctgggcttgg ggggccactg ggtggcctgg gaggctacca gtgtggcatt tggccctcc 28860  
ccagcgtatg gccccaccc atccctgcct ctcttcttac ttacatcctc ctctttttat 28920  
tctcccaaac ctctttctct cttgtgtgtt tattcatgca ttctccctaa catgtgcttg 28980  
cagagtcttc tgggataccc aggggtatta ctggcatgtt tactaaaggc accgctgatc 29040  
cccaaaatgg gccctttgtg aaatgaccac tgaaggggtg gagggaggag tccttgcttt 29100  
ctcagtttac caagacagca gttactggtt tgagactttg aagacaggat ggcttgattt 29160  
ttatggataa acatcattat ctcatgggtg tattttaggg ggtgatattt tactatcctt 29220  
gaagcttga tatctagatg acagttttga tctggtttta ctgggatcaa aagcagtttt 29280  
agtagtcaa gtcacttaa ctgtccattg agatgggact cctgtaaaat cactttgtat 29340  
ctggagatag caatccaagt gttctggctg ggcgcagtg ctacgccta taatcccagc 29400  
actttgggag gccgaggcgg gcagatcacg aggtcaggag ttcaagacca gcatggccaa 29460  
tatggtaaac cgtgtctctc ataaaaatc aaaaaagtta gctgggtgtg gtggtgcacg 29520  
cctgtaatcc caactacttg ggaggctgag gcaggagaat cacttgaacc tgggaggcgg 29580  
aggttgcgt gagccgagat cgtgccactg gattccagcc tgggtgacag agcaagactc 29640  
tgtctcaaaa aaaaaaaaaa gaaaagaaaa gaaaagaaaa cccagatgtt 29700

ctgtgattat cctctgaaaa tcgtggtgct taaaaaatca cggcaagcat cttccgcctt 29760  
gaagagtaac agtaatagtg acagtcatta gcccacatg ttgtagtga tgatcagggt 29820  
catcttcgtt ggctcattgg aatcttacca ataataaacc agtatttggg tactcttacc 29880  
ctgcaacaga tggggaacac caggccaaaa ggtaagcag gaatggagag gcgtgggaac 29940  
tcagggttc atcctcttct cgtccagggc agcacccttc accaggcatc tcccatgtcc 30000  
agctccaaat aagacacagg tcctcgctgt cccctgtact tccttctaga acagcacgtg 30060  
gtagtccagc agctcagata cccccagttt cagcaagatt ttgggggtta ctgattttag 30120  
gtgaagggaa ggattctcaa tgaaaacact ttcatttaaa aacaggaaat catacatcat 30180  
aaactctcct ttgccgggag agagattttt ttctgcatca caattgcaaa tgccttgctt 30240  
atcttttttt ttcttttttt tccccctaat ggagtcttag agcattcctc tgcgtgacat 30300  
agggacatgg ttgcacctta tctgagggtc aggatggagc agattggtgt gtgggtccca 30360  
gggtgccttc ctgtgagga gggaaagctt gctgcttctg ctcagcggct gccctggtga 30420  
tcaattctgg ctaagaggaa agtacattcc ataacatttc tggtgacttg ctgatcatgt 30480  
gatgtgtca taatagacat tgatcatttt atgaccaga ctgatccaat gtaaattcat 30540  
tctaactagg tgggtgctgt ttcagcaatg agttgttga gacctgggac tcaaaggaca 30600  
tctggtcctt gccttagcca gctgtcaaag gggttggacc aatagcgtt ggggccctt 30660  
cagctctcat gttgagtga tctgtgactc taggatgttg ggagtgggag atgggccaag 30720  
atgtgggacc agactgaatc cctgccgtct tctcctcctt ctcataattc tctccttctc 30780  
ttttttctgt ttggtctcca tagtttaaag tatttctatt agtcactcaa ttcagccgca 30840  
ttttgactta accagccttg agagacctgc tctaagagcc ttcaaactaa gttcccaaca 30900  
tcttttaaac ttcgctttgt ccttcacttc tcagctcaaa tgctgttct ttggagaagt 30960  
ctctctgatt gtcttatata acagggattg aaacactttt tgcaaaggca agactgcaaa 31020  
tattgtaggg cttgcaggcc acagggtttc tgttgcaatg actgaactct gcccttgtaa 31080  
cacacaaaag cagcgccaga caataaggaa tgggcatggc cgtgttctaa taaagctttg 31140  
tttcaaaaa caagctgcgg ctggcttggc ccgcgggcca tcatccgcca cctcctgcca 31200  
agggaccagc cctcctctgc cactgctgtg tgtccccgta ccttgccatg tccttcttcc 31260  
taatgcttaa gcaagaacac tgtatttttt gtatattttg tatctatcgt ctgtcaccoc 31320  
caccataatg gacgctccac aagtgcaggg tctttatctt gtctcctctt gctgcggagc 31380  
ttccagaata ggcttgttgt atagtagaca tgcagtaa atactatgag tgagaaaaca 31440  
aatgttagaa acataacctg ccgctcagct gggctttcct tgccttggg tgcatttgtc 31500  
catgttacat ttagcttcta ttttctcct tttgttgtga ttctctctt gtgttcacgt 31560  
gctagtggc atctggggct tggcatgcat gcctttggtg atgccccctt gagaagcccc 31620  
gggcctcctg tgtgctgtt gatggtggtg gtgaggggga ttcttgttc ccaatgcag 31680  
tggcccttgc tcttttcaca gtgggactga aacacagatt gacttgattt cagtctcctg 31740  
tgggagattt gttcttctga ggggtgtcta ggcaaaacag ttgccttga tcttgccctg 31800  
atgtgtgct gtctcagtg tgggaagctt tgcattttct aggcctggaa ctctgggtcc 31860  
cattcacact tctcactgga gggatgaaag cctccttctt gggccctcgt ggccatccca 31920  
gctggccgct ccagctgttg ttattaataa atgccagtg tgcctctca actccagtgg 31980  
agaggttgtg tgggttggt ccttgtgggt ccaatcccgt gctgcatac tgggaactgt 32040  
gacctgttt gacatggcca tgtgtctgcc aagcaggatg gggctcgtg cgggaagcac 32100  
agagaacat gagaccacg ccttttctct agggcttgg tgtctcctg gggagatgg 32160  
atgattcat gagaatatg tgcacccat gagctggcaa agtgggcagg tgtatggtg 32220  
agggggagg agccagtgt cttccgcca gggggactga tgcaaggtga ctcccatcac 32280  
ggaggaccct gcttgatttg ggtcttggag ggtggatgac agggaagaga gggaggaag 32340

actgtcccta cagaagaagc ctgggacatg tgtggtgggt gttggtgagc aggggtgggac 32400  
tcagctttgt cgtgtggagt cgggggcaca cagcaccagc cggcttcatt tcaggacccc 32460  
tgtaagtga acggagactg ccttgacagt gtctgggcat ttgtctcttt ttgtttttgg 32520  
tgtaaggcc tctagccttt tatcattttg ggaaacagc aggtctcagc tcaccagca 32580  
cagaattagg tctctaaacc ggcaaagtac tgatctgaac atgagagctc atgaaaactc 32640  
tggatggcaa aaaatcttgt agagggatcc cttagttttc cttgagtttg agacatttca 32700  
ttttaagaag cttggccttg gggcaacaga ccaagtctag cacaaataat aaagagtgtg 32760  
tgtgtgtgtg gcgcacagtc acgtttcacg tacaaatgtg taaaactcgg cattcttaca 32820  
aataaaaacat accacaataa cagatttttg cagggtattac agtgcaagca cgctttggca 32880  
atcaatttaa acattttctt gtggaatatt cttccatgct atggtttgggt ttgtttctaa 32940  
agcccatag gatgtggaaa ctaagtcagg acagattttc tgggggtatc ctctggttgc 33000  
tcttccagat acttctgac ttctggggc ttggggagag gtggatgctt gctggggcca 33060  
tttgacagc aagaacagct tctcctggga ataagcaggc ctccactgac ctttgttgga 33120  
cgttctctcc tctccctcct tcccactgtt ctccgtcttc tctctccac ctttctgcag 33180  
agccaccaac caaatacca atctctcaac cagaagtgtg cgtggctgcg ccaggggagt 33240  
cgctagaggt gcgctgcctg ttgaaagtgc ccgccgtgat cagttggact aaggatggg 33300  
tgcacttggg gcccaacaat aggacagtgc ttattgggga gtacttgcag ataaagggcg 33360  
ccacgcctag agactccggc ctctatgctt gtactgccag taggactgta gacagtga 33420  
cttggtactt catgggtgaat gtcacagggt agttggcccg ccagcactat gctctctctt 33480  
ctctgtagcc attacatttt ttggccaag tgaaaaggta gtgagatctc taattgta 33540  
tggatggcag gcatacagct tcatagtttt tgaaattctt ctttgggacc tgggtgacca 33600  
gaaaggccga tcattaagaa tgatagaatt cttgtgcaca aagtaacatt tttcttaaga 33660  
tagtacgctt ttatttaagt aaatacatgc tttttttttt ttttttttgt accactgaca 33720  
tctctggcat ttagaataata ggggtgaaat ttggatactc aagatttctg attcatttat 33780  
tagagtttga gtttctctcc atgatttctt tctatgcagt gagcgggaca gaacaggccc 33840  
cctttgtggc cgagtttaaa gttctgcttt cagaatgtta gttgacgatg agaagggcca 33900  
cacagggact gagttttgtt agggatcaat ttctctcttc aaggagaccc cgcatactga 33960  
aaggttaatg ttggaaaaag agtctttggg tgctacaca ttggttaaatt tgtcaggggc 34020  
ttgaatactg tttgaagctt gaaatccagt tctcatatat ccaattttat agcctgttta 34080  
aatagcgtga aagcagaaaa cattgagaat cataacatag accaactgtc atcatggagg 34140  
gaaaatttaa gccattaaaa ctatcttaac tgaaaacaat ccaggctctt ttgcgagggt 34200  
tcctgggttg ttgactttgc tatggagaag gtctcagttg tagataattg caaccttttt 34260  
gccttgcaaa aaacacatcc atggaatatg ttcttttgca tacagatgcc atctcatccg 34320  
gagatgatga ggatgacacc gatgggtgcg aagattttgt cagtgagaac agtaacaaca 34380  
agagtaagta actgccggc tccgatggtc cccgagagag gagcatggag ggaagtcttg 34440  
cctgtcacct gtcttcttgt cgactcttct gcgccatgct ggtccccg ccccttgctt 34500  
ttccccgtg tgtctacttt cctgactttc aaacctgaga ataaaccagt gttgtgtcac 34560  
agccttctct atcgtttgct ctttctcttc gtgtcactgg tcattcgttt ttcaaagcag 34620  
ttactacttt tctttccttg attttccctt tcccctttga cttctcccta ttcagagaca 34680  
taagaatagt agaactcatgt aacatcttggt ttttcttgtt aatcagtgat tgtgcttggt 34740  
ttaatccagt ggtgtgtgac tggggcaatt gcctattctt gctctcccgc cacattgggc 34800  
aatatttggt tgtcacaaca gagggagggg gtgctggttg cctttagctg gggaggggccc 34860  
agggatgcag agcacagccc cataacaaag aattatctgg tccaagatgt caatcatccc 34920  
tagggtgaga aacccggcct cctacaacac acacctcatg ctgagtgaat atgaaggagc 34980

tgtgccttac tttgtagacc acgattgaaa agggagccaa ggggtggcttg cttaatgagg 35040  
gccatgaaca ctgagcgcta acatgggaga ggccatttac ttgcgaggaa gaacatggcg 35100  
tagcctcttg gagctgggca acctgggttt gaatcttgct ccacaacttc tgagttgctc 35160  
atttcacttc tgtgccttag tttctttata aaatgggagt aataataata atactatttt 35220  
ctgggggttg tatgaggatt acatgagttc ctagtgtat agtgctcaga agagtggttg 35280  
cttgcaaatg tttattcaat acacaaaata caatatagca ttacttgcat tttccaatga 35340  
cttggctaga atgttccctaa agtgtttgta catagggtat tgggattctc tgcttacatg 35400  
gtatatctca catttttctt aaaaggattt tagtcaattt ggtacattta aacaaggcct 35460  
aagtaataa ccacacccgg ctaatttatg tatatatata ttttttttcc cgagatgcag 35520  
tcttgttctg tcaccaggc tggagtgcag tggcgccatc ttggctcact gcaacctgca 35580  
cttcccagg tcaagcaatt ctctgcctc agcctcccga gtaactagga ctacaggggc 35640  
ctgccactac acctggctaa tttttgtatt tttagtagag atgggggttc accatgttgg 35700  
ctaggctggt ctgcaactct tgaccttggt attcacctgc ctcgccctcc caaagtgtcg 35760  
agactacagg cgtcagccac cgtgcccagc ctaatttatg tttttttagt agagacaggg 35820  
ttttaccatg ttggccaggc tgggtcttgaa ctctgacct caagtgatcc acccgctca 35880  
gcctcctgaa gtgctgggat tacagggtg agccactgcg cctggcaata ctttattttt 35940  
tcgagcagtt tcagggtcac agcaaaataa agaggaagga acaagattt cccatataat 36000  
cttccccaac acatgcatag cctgtcctgt tatcaacatc cccaccagaa tgggtacatct 36060  
gttccagttg atgaacctgc actgccatca ttatcaccca aagtgtgtgg ttgactttag 36120  
ggtatgtaat catacagtgt gtagccttta cagattggct tctttgactt agtaagatgc 36180  
atgtaagttt ctctcatgtc ttttcatggc ttgatgggtc atttgtttgt agcactgagt 36240  
attccattgt ttgtatgtat caaagtttat ttaccgttt acctactaaa agatatctcg 36300  
gctgggcacc gttgctcacg cctgtaatcc tagcactttg tgaggccgag gcgggtggat 36360  
cacttgggaa caaaagttcg agaccagctt ggccaacatg gcaaaatccc tgtctctgct 36420  
aaaaatacat aggttagcca agtgtagtgg tgcatgctg taatcccagc tactcgggag 36480  
gctgaggcat gagaatcact tgaacccagg atcgaggagt tgcagtgagt cgagatcaca 36540  
ccactgcact ccctcctgcc tgggtgacag agtgagactc catctcaaaa aaaaaaaaaa 36600  
caaaactctgt tgcttccaag ttttgacagt tgcaataaaa gctgtacag acatctttgt 36660  
gcgggttttt gtggggacat agttttcaat tactttgggt aaatgttaag gagtgtgatt 36720  
gctggattat gtgagaagag tatgtttaga tttgtaggaa accacctagc tgccttgcaa 36780  
agtggctgca ccattttgta ttcccaccag caatgaatga gagtctctgt tgctccacat 36840  
cattcgatgt gcttgggtgt ctggattttg gccattctga taggtgtgta atggtatttt 36900  
gttgttttaa tttaaatttc tctgatgaca gatgatgtga agcatcttt catatgatta 36960  
attgccatcc atgtatcttc tttggtgaga tgtctgtaa ggccgttggc ccatttttta 37020  
attaggttgt ttgttttctt actgtcagat tataagagtt ctttgtatat tttggataac 37080  
agtcctttat tacatctctt ttgcaaatag tttctcccct cacctgtggc ttgccttttc 37140  
attctcttga cagtgtctct tgcagagcag aaatttttaa gtttcatgta gtctggtttt 37200  
tcttttatgg atgggtgctt tgggtgtata cctaaaatgt catcaccaa cccaaggta 37260  
tctagatttt ctctatgtt acctcctagg agtattattg ttttgtattt tgtatttatg 37320  
tgtgtaatct attttaagtt aattttttga aaggatgtaa ggtgtgtgtg tggattcact 37380  
ttttagcctg tggatgtcca gtggttctgg gactatttgt tgaaaagact gtcctttagg 37440  
tttttttttt tttttttttg agatgggagt ttcgctcttg ttgccaggc tggagcgcaa 37500  
tgggtgcgac tcagctcacc gcagcccctg cctcccgggt tcaagcaatt ctctgcctc 37560  
agcctcctga gtagctggga ttacaggta atgctaccac acccgctaa ttttgtattt 37620

ttagtagaga cggggtttct ccatgttggc caggttggtc tggaaactccc gacctcaggt 37680  
gatctgcctg cctcggcctc ccaaagtgtc gggattacag gtgtgagcca ctgcgcccgg 37740  
cctgtcttct taaaggaaaa agataaaata gatattggta ggtgcctcgg ataaatgagt 37800  
tacttaagtg aagacttaga tttgtccctg agtctcctag cagctggggc aaaagagaaa 37860  
tattttggtt ggtgcagttt ttactttttg tcaagaggaa gcttagggca gtggttctca 37920  
aagtaaagtt cctggaccag cagcatcagc atcacctgag aactccctcg aaatgcagat 37980  
tctcaggttc ctctcagac ccaactgcctc agaaactctg gggctgattc tgattcacac 38040  
tgaaatgcga gaaccactgg cttagaattt gcacgtggag gtctgccctg aatgggagct 38100  
tactgttagt ggtcttgttc gtaaaacagt ggataataag gtgagtggaa gtatcttctg 38160  
tgattgttac cagccttcta aagaggttat cattattgtt atttaataaa aagcactgat 38220  
aagtggagca tgtcactcgc ctcttttttt tttttttttt tttttttttg gggacggagt 38280  
cttgctctgt tgcccaggtt ggagtgcagt ggtgctatct cggctcactg caagctccgc 38340  
ctcccggtt cagccattc tctgcctca gcctcccgag tagctgggac tacaggtgcc 38400  
caccaccaca cccggctaatt tttttgtatt ttttagtaga gatgggggtc caccatgtta 38460  
gccagaatgg tctcgatctc ctgacctcgt gatctgctcg cctcggcctc ccaaagtgtc 38520  
gggattacag gcgtgagcca cggcacctgg ccaactcact tcttttgcc agtggctctg 38580  
gcatgaagct ggaggcaaa agtctgaggg cctgcactag acaggctctg tgctggctgc 38640  
tggttccgtc catgccacca ataaccgat caggtggaga gagtatttat tcttgttta 38700  
ttgaatggaa aattgtggtc tagcaagcaa aagaagggtc gcgtttcagt ttaggcctg 38760  
ttgcctgaga gcacctagg gtcacgatgg ggtggagtg agaatgcttg tacaggtgtt 38820  
tacagctctc cagtttttact gtatgtgggt gccctcgcta tggattgaga catcagattc 38880  
tgtcagcttg gtttttggtt gcctggggaa ctgcgttgct ctggttgctg gctacctgcc 38940  
taatagcagg ttacctgtga accatgtgaa gcaatagaat gcaacagcaa ggtatggatt 39000  
acatgacagg caggttgagt ggttcagaag gattatatgc tgtggacctt atgctttgca 39060  
ttgtgaacag tgttctaac tgcccagcgc ccattgcagaa gggccagggg gttaggcacc 39120  
catgtgatga atgccaacca acagtgtact tgccatgcct tcaccttgca agcagggttc 39180  
ttttgtaatt agctctcgaa tgacagcaac tctgcccctg aaatgggtgc tctgcagtga 39240  
ttaagggcta gtgttagctg taccaggagg atactgctgt gaggaggtgc ctctgtttg 39300  
tgtctgtgaa acattagatg ctatttaaag tgatagcggc tcttagctgg ctaactggcc 39360  
tctgccatct gtagtgtga ttaggtggtt ctgattcaca ggtgcagcct ggggcggctg 39420  
agattaagca gctgtggtct gtgtggacag aggaatgcca cggccgggtt aattggcaag 39480  
gcaggaaagg ggaacttgcc attaaaacaa ttttttgcca cctcaagtgt caaatgcctg 39540  
accggattaa tagggaaaat tgcagaagca ccaaattctt tgtatttca gccacctgga 39600  
aaacactcat gtgtccagat tgatttctt ggtgccttct gattgtctga aaatgccact 39660  
ggggtgtgtt tgtatgttct tctttaggaa ctttgacaaa tgatgctcca gtgacctgt 39720  
gttgatggtg acgttttttg gcttttttga gtttttttt tttttttttt tttctcctt 39780  
tggattgaga cattgaaaat ttagttctgt atcttccagt tggaaaaata tattgcaggt 39840  
tattcctct gctgatttgc tagattattg atctaatttt gttggttaac ataagaaggc 39900  
aagctcagct gcctgctaga gtgtttttta gattctgtac agagtacgaa aagcttgggt 39960  
gccaaataca atggcaaaaa taacaatgaa gaattaaaga tcgggcgcgg tggctcatgg 40020  
atgtaatccc agtacttttg gaggcaggag caggcggatc acaaggctag gaggctcaga 40080  
ccagctggc caatatggtg aaactccatc tctactaaaa tataaaaaatt agccgggctt 40140  
ggtggcgggc gcctgaggct gaggcaggag aatcacttga acccggaag tggaggttgc 40200  
agtgcagcca aattgtgcca ctgcaccca gcctgggcca cagagtga gctcgtctca 40260



aaaaaaaaaaa aaacaaaaa actgtatcta ttaacatcat gttgtacatg cattgaaaaa 40320  
cccagccatg ggctgatttg attgatcttt ttaagttggg ttcttcatca cagatgtgca 40380  
gggcattctc tggcatatt ttagcagctg actagctgat gacctcacat ggtaccagca 40440  
ctagatgttt ccaagtggaa cagtcctgtg atgtcattac aagcctgggt gccaggaaat 40500  
aatgctgtta catatgcccc tcggtgcaac acattttctc cagaaagaaa gttgcagttt 40560  
catatgctaa tttttgaaat gcatccaggt tgagggtttt gaagggttga gaatttatcc 40620  
tttcgcatag aaaagtataa gttactagt tcttgccctc ctaggtact aggtatgtta 40680  
atgggttate tggcagcaac taggtagatg catataccca tttgttcgag ggatttttat 40740  
tgtttccagc ttgtttcggg gattaatgtt tctgaagagc ttgagactta gtttttgaga 40800  
agatcatgat ggacgaaaag ttcagggtcca ttgcttaact cgagggaagt gatggagaga 40860  
cagttgcac aagactcttg ctgctaaagt ggttctttct ctcgagtgat gagagaaaaa 40920  
gtaattttct attttggttt cattcctgtt gagacctgca gatgccaca ctccatgtca 40980  
gggagaaagg ctattttttt tggaagtacc tagggaaaat gaaggtagtt agcctgagat 41040  
tccaaactca ttccattgat taacctgccg ataacagttc aaagtcacct ttgttctaata 41100  
tgggattttt acttggtaga gatcctaagt tggtaacagc aggtcttcta gttgtgttga 41160  
agtttctagg aattgaaaag aacaatatca gtaataaaaa caacaaaaaa cccacacagg 41220  
ctttgcaaat ttttagaaat tccctttgtg atgaaaacat catcaataag ttggtttggg 41280  
ccagcatagc agctcgacc tgtaattcca gctagttggg aggccgaagc aggaggatcg 41340  
tgtataccca ggagtttgag actagcctcg ggagcatagc aagaccgcat ctctacaaaa 41400  
aataaaagat tagccaggtg tggtagctca tgcctgcagt ccagttact tgggaggctc 41460  
aggtgggagg atcacctgag gccaggaggt caaggctgca gtgagctgtg gttgtaccac 41520  
tgcagtgcag cctgggcaac ggagcaagac cctgtctctt aaaaagaaga aaaagctgct 41580  
tttggtattt tatcacaat actggtgatg gtgttccatc caatggttgg actgaatc 41640  
tttctcagtc tctccttg tcaaacagca tagccaatga ttggagaagt ttcttttgaa 41700  
ggcagatctt gggaattccc atgggctaac tggctgtgta gtgggctcag ttcttttact 41760  
tgtgtttaac ttgcttggtt ttgaaaacat atatttctga ttgaatgcct ggctggttag 41820  
caagttttta atgagatttc tcaaaagccac agacataccc cctcataatc atatcctcac 41880  
tcacatctcc gtattttggt agatttggtt tctcttagtt tataccaaac tgaaagcaga 41940  
actgcagggt agtggggagc tctgagacat ttttcccctg tcaggagtca aagcattcaa 42000  
atgtcctgat tagtgatatt tttaaaagcc ctaattatag actcgagaca gaggcttttag 42060  
tggggcttta gagagtttgt gagacttaat ctaggagctg gaacaggctg tgtttttaa 42120  
attttttgca tccataaaaa tacagttggc agtcattggt ggccgcggct cacataaatc 42180  
ttgaactttt gacttaatta ccatgggaga gttcaaaggg caggctggag tggttgaagg 42240  
aacactgctc agggagctgg agatgggctt ggctcagcc cggcctctgg ctgtgtgacc 42300  
ttgatcaaat cacttaacct ttctggatga cattgatc atcagtcgtt gggccagatg 42360  
gtcaccgagg tctcttttg tacagcctgg taatatgatt ccatgtttct cctttaaatc 42420  
attgggccgt gttctctgtt ttttggttcc agagagagag agagagagag agagagagag 42480  
agagagagta gattataaac cttaggtgtc agcattgaga tgtgcaaggg ttttggtggg 42540  
ggcaggccca gcagcctatg gtttctcact aagtttaaat tgcagggtca aaagaaatca 42600  
cataatccta ccatttgttg acagaatcaa tacctgtcta gcacatagat acctggaaag 42660  
tatgttcgaa ctggcgggga ccttaatcag tgcaactact tcattttata gctaaagctt 42720  
ttaatagtca tccatccgtc catccatccg tccgtccatc catccatcca tccatccatc 42780  
caataacgct tgagtgccta ctccataggc taaagacaac tccagctgta cctccagggt 42840  
gccctactgt tgttgggtcag catcagaagg agtatttttc agtacagaga cactaatggt 42900

ggaagcacac atctatcaca aagaaggggc cctgagaaaag aataacttgg ctctaggggtg 42960  
ggaataataa aggctgtgtt ggagtccttt gaaggaagtt tctgtgggtt tataaatctc 43020  
tctttaactc attgcatctt aaaagacttc tgtgtcttta aagtaaaatt ctacttaata 43080  
ttattactaa tgtgcaatga ctgttacagt gtagaaaatg ataatgagta ggtatgctat 43140  
atgctgggtga tgggatttaa ttgatgggat gggattgatt gattgtggct aggtctgact 43200  
gttcttttaac cagctcattc ttagtatttg atgattagga gaacatcatt cttgtgggtac 43260  
ctattacatc agaaggtcta agaatgtcag agccaaagga accatacctc tcacgcaggt 43320  
taatttgttt cctttacagg tggattagtg tcattcattt tgaatgccat tggaaagtta 43380  
taccacacgt ctctattagc tgacttttaag cccgctcttc atacacctct aaggatatata 43440  
aagttcaggg aaactcatgt gtccttagct tgcagattca tttgattgat tgattgattg 43500  
attgattgat tgagacagag ttttgccttt gtgcgccagg ctggagtga atggcatgat 43560  
ctcggctcac tgcaacctct gctcctggg ttcaagcaat tctcctgcct caccctccct 43620  
agtagctggg actacagcca tgcgtcacca tgtccagcta atttttgcat ttttagtgga 43680  
gacgggggtt caccatgttg gtcaggctgg tctcggactc ctgacctcag gtgatccgcc 43740  
caccctggcc tcccaaaggc tgggattaca ggctgagcc accgcgctg gcctgcagat 43800  
tcattttaga taagattgtt gagtaaacat cctgtttaag catctactat ggacaaggct 43860  
gatctctgct tcagtagatc ttttaatttg tacatgagtt ccttctccaa atgagagttg 43920  
ttaaagctgt tcacgagcct tgggtataaaa ggggcttcct taggtagagg agcccgttct 43980  
aagtgctcgg atggtgtttg tctccagctg ttttgagtt cttgggaggc cctggcattt 44040  
ccatgtgtgt cctttccaac tgcaaaaaca tacagaggac acaaggctgc tgatgaagga 44100  
aacacagtag ggctatctta tagtattatt atttttctag atcttacaga ttcaagggtc 44160  
acataaagct agtgtatttt aggaagagct attgtaaaat tataaaagag ttccagccgg 44220  
gcgcggtagc tcacgcctgt aatcccagca ctttgggagg ctgaggcagg tggatcatga 44280  
ggtcaggaga tccagaccat cctggctaaa acggtgaaac cctggctaaa acggtgaaac 44340  
cctgtctcta ctaaaatac aaaaaaaaaa aaaaaaaat tagccgggca tgggtggcggg 44400  
cacctgtagt cccagctact cgggaggtcg aggcaggaga atggcggtga cccgggaggc 44460  
agagcttgca gtgagccaag atcgcgccac tgcactccag cctgggcaac agagcaagac 44520  
gctgtctcaa aaaaaggaaa aaaaaaaaaa agacttctc cctcccgtta tcaagttcat 44580  
taaacatatt tgtgagcttg atatttaaag agaggctgtg tgcctgtgtg atgttagcag 44640  
tcaccagggt ggggctggtc acacatggga gcctgggtgg agggttgtgc ctggattttt 44700  
tatgggtggc cccaaccttg gatctctgag acctagatga gcagcactgc acccgtagcc 44760  
tgctgtatgg cctgtctgtg tttttgcaga agcagatttt ataggtgtag cttttagatg 44820  
tgaaatatca ccgaggggaa gtggctacct gccagaaatt ccagcaacat tatttcacct 44880  
tagtccctaa atcactcccg aggcaccaag acaaagggtg ggggtgcccc tgggctgttg 44940  
ccacagggtc ggctgcata ggtgcgctg gtctgggccc gtccctgggc tgttacagac 45000  
tcacccatgg cttggcccag tgagggcaga aaagaacaac attcctagtt ccttcagcta 45060  
aatcccactt ttttttagg gaacataaaa atcatgccta atggtagta agcacatatc 45120  
tgttgatttc ttttatgtaa aaaagaaaag acattccaca ggatcagctc agcagtaatt 45180  
gatgttatct gaaagagtta ctgcattaat atttagctaa ttcatatgaa taggctattg 45240  
tgtttactta aacaaatgac atgagtgcag acacctgaca gcattaggtg tgcttttcat 45300  
ttaggttaga tttgtaaacg tctttgtgta gtgacaaagc tcattatttg ttttgtgctc 45360  
tcaatggttt ctttttagtg gctgtggctg tggatggatt tttctaagta gaagctttta 45420  
aaatgaaagt ttattgaaat tgtttcagta tatgccaggc cctgagagtc ttgggatgaa 45480  
tgggaatcaa gtactccctg gtgaaccctc aaaagaatag gtgcgtttat gggcattcaa 45540

caccagagc caaatgtcta cccaggttgc aaatgcaact ggattcaaag gaaggaattc 45600  
agccctgtt ccttcttct cctccttct cttcttctt cctggcttcg atagttttgc 45660  
ccctcttccc actgtttcag catcatatgg gtgcacctaa atccccatcac tttgacactt 45720  
agataagcac agggataaag atacagcatg gccttgtaaa gaaatctcag ctctaccttt 45780  
gacaacaggt ttcaagagca agcgtgaagg ctaattgggg taggtgtttg gatgcagcga 45840  
tttcaattcc tgattgtacc ctgagctcgg ctgctaagtg aaggggatcc ttatcccca 45900  
gggacgtgct ctacaccctg agaataagag agacttctaa atatgcatca gagacaaagc 45960  
ccctgcctag ggccattttg ccttgggttt gtgaactgtg tgtgctgttg ttcagtctag 46020  
ccttcatcag aaataagcat agttatgaat tagccttcta caatgttcaa gtccctgttg 46080  
gtggctgttt cagaggaata cagggatttt ggttactact ttgctaagac agaaacatat 46140  
atgtgaatag ttaaattgct gtacagtaga ggttctggac aggaaaaaag gaggacgtgt 46200  
gccttgaccc agcgtggctt tcccgactt cagccttaaa catcagattg gtggaaggta 46260  
cggattccaa cctcgtggag aagctgcac ttcttagcag tggagagtag ggttgaagat 46320  
agtgggtctt ggcacagac tgatgtggtt caaatcttgg ctgcacctct tccaagcttt 46380  
gtggctttt gcaggttact taactgctct gtgcctcagt tccccactt ggaagccaag 46440  
attatgatag tgcttctt gttgaagcat tgtgaagatt aatgtgttga catgtaaaa 46500  
ctcttgagc agtgcttggc aaagtagaag ctttcagtcg gtatgtatga ttcgccatta 46560  
ttagcagaca tgaagaattt acagtgggtat tctggcttga tgtgtggctt tttatttga 46620  
aaaaatatac ttacttttgt gatttaaaac ttttttcttg actttaaaaa atcacttgta 46680  
tttatgactt tcggggacat ctggagggca taactttaac atatcattta attggtagcc 46740  
tcctcttaag ttatcattag gtgggttggg agggttatgg cattcataac caccattgga 46800  
aagaaatttt ttttttaatt aaaaaagtta gtatgtattt agtgatacag ttttttttt 46860  
tgtttgtttg tttgtatata agttctgaga aatgtacgaa tgactctctg ggttatttta 46920  
ttatattaga atgacaattt atactattga ttgcccttaa agtaaggctc caatggataa 46980  
gttgataggg cttttgagaa caacttgctt ttactagtgt gtatatgtga tcatttaata 47040  
ggtgtggcaa tccaaaatga tctatttttg gaggactgag ctgtcgcagt tgtatatgtt 47100  
gttcataatg ttataaaata gcattttaaa acatgatttg gcataaaatt attttctggc 47160  
atcaagaaca agagagagaa ggggctcaa acactttttt ttttttctc ctgttgtag 47220  
acatgaacca tccctctctg ggacctctg ctcagccagc tggattagac ttctgaaaat 47280  
attttccaa tgtaaatatt acccaaagat ttaaaaaata gcctagcatt tacatgcaa 47340  
gcgaaatgat cttaacctgt tggagtttac tcatggaggg gaagctgtcc atcagtatac 47400  
attctaatac tgttttccaa aacaggagca ccatactgga ccaacacaga aaagatggaa 47460  
aagcggctcc atgctgtgcc tgcggccaac actgtcaagt ttcgctgccc agccgggggg 47520  
aacccaatgc caaccatgct gtggctgaaa aacgggaagg agtttaagca ggagcatcgc 47580  
attggaggct acaaggtaga attaaagctt cagaacatca catttcttac attttgttt 47640  
atttatttat ttacattttt tttttgcgat ggagtctgc tctgtcgccc aggtcggagt 47700  
gccgtggtgc gatctcgtt cactgcaacc tccatctccc aggttcaagc gattctctctg 47760  
cctcagcctc ccgagtagct gggactacag gtgtgtgcca ccagcctcg ctaattttt 47820  
gtatctgtag cagagacggg gtttcaccgt gttgtccagg atggtcttga tctcctgacc 47880  
tcgtgatccg cctgcctcgg cctcccaaag tgttgggatt acaggtgtga gccacgatgc 47940  
ccagccctac atttttgttt attttttgaa gtgctcaaaa gttagcagga attagaagga 48000  
atactttaac aagaatcaat aattgtcaca attgccccatg tcagggtttg atattaaaaa 48060  
aaaatattac cccggacttg cgtgtaattt taaagtacaa tccccgtttg tgttgttctt 48120  
catatgagga gagttaata acagaagggt cgaaagtga gagtctgttt tctatatgct 48180

ttatagtgtgta taaaactaaa acgggtgtgg agtttgagaa gcgtcagtat agtttccctg 48240  
tcagagcagg attgcatgaa tagtgagggg acttgagatta gagactggag tatgaaatat 48300  
gatgcattaa gggagagtgc gtggagatga cagtggcaat ctgctgtcct ccttgaagga 48360  
ttcttgagag cacgtcacac aatgccatga aattttagtc tcatcactcc ctagggagtt 48420  
tgaaattggc agctgtctcc ctgcagatgc ccgcgcatgc tcctctagcc tttgttcac 48480  
cacttagcag acattgattg agcacctctg gtgccaggca cactcctggg ctctggggag 48540  
atgagagggt gaggcattggc ccagctcca aggggctctt agtccagtcc agcaggagag 48600  
gcagaggaga actctggcaa tgggagggac acaggtttgg ttgaagtgc aggagcatgt 48660  
tgcattccat ggatgtacat ggaaaggatga tattggattg gcgtttggaa gaataaggag 48720  
aaaggaggtc aggaaaggat tcagggtctga gttggaagga aagatgtctc agaaagagag 48780  
agatgggaatt tccaaattat ttagtatgga aggagagaac tgtaataatt gagcatatga 48840  
aaaggactga aggaaacctt atgatgaaat tctctgatgc atttggaaca taagtgggca 48900  
tattagttac ctgttgctgc ataataaatt gccccagggt atggtagcct taagcaacat 48960  
ttattacctc attgttgctt ggatcaggaa tgaagggtg gcttagctgg gtcttccatc 49020  
tccagctgtc tcacaggact gtaagcaagg aagggttgag gctgaggtct cattggaagg 49080  
gttaattggg gaaggaaactg ctcatgtggt tgcgttagg attcacttcc ttgcagaggg 49140  
cctcagttcc tactgactg ttggctgggg gctgccact gttccatgcc acacgggcct 49200  
cttcataagg cagctgctgt catcagggtt agcaaaggag gagccagaga gagagagagc 49260  
aggatcgag aagtcagagc cttttgtaac ctagtgttgg aagggacagc caccactttt 49320  
gcttttttcc attattaagc aagacactag ggaggagggt gccccaggac ctgaatgcca 49380  
ggagacaagg ggatcacccg aacctcatct ggaaaactgc atggtgggag gaatagaaga 49440  
cgctctttag ctacagacct aggtccttta cagccaggta gggaggattc ctcatgaga 49500  
gcagtggggt gtccaggact gtgtctcacg tgtctttaac acaccagcat cactttagct 49560  
ccatcattgc tgtaggtaaa tgagcctcct ttccacctaa aaatgccctg caacctttt 49620  
ctgaaatttc ttagacagtt attcatcttt aaaggattat tttcttctgc aaaagtttt 49680  
gcctttttgt tttaacactt agaaattaac atctagaggc caaaattcag aggaaaaatgg 49740  
ggacagccta tgagtaagtt tctaagaacg catgggtggg agtgaacatg tgaacagtt 49800  
atgaggcaga tctgctagca ggtgggtact gttgaagctt gaaagtagaa atactttggt 49860  
tgttttccac aactcctact tgggtggtgga agcaggaggc aggggttgcc cttttaaaag 49920  
gttcttagtt cagtccttag accagatacg atgagattca aagggttgcc cttttaaaag 49980  
aaatctttt gaaaaaaaa agttaaggat ttcattgggg gatgctggtt agaaaggaag 50040  
agttaagcca ctaaaatcac ggcccctggg attgttttta accaccaaat gctttctgaa 50100  
atcacataa ttgatgcagt tccaatgatt tatttaata caatctgagt gtgagaatgg 50160  
tggtcaaaat cctggtggtt aactaatttt gtcaattaag acagccttgt aaataagtac 50220  
aaagaggagc tgatgaggct ccagagagcc ctgggctcaa aataaatgga accgacatca 50280  
ttattatggg gaaggagctt ttgcaaatc tgaattagtg attacaaata tgctaagaga 50340  
ctaagagggc ctaatgagaa aatgctgcct gatttttaac aggtgcagtt cagtgttaat 50400  
tattgattcc aacatttcgc tagatgaaga gcacctatgt tctaaaagca aaatgaggac 50460  
tcccagcaga aagcctttag cctgcccctg tggagtgcag atgaccaaa tgattttgtt 50520  
gtatcacgct gagccgtttc tggaggggaa aggaaatgga atttcagtg gtgggacaaa 50580  
aacctaaaat atattttgct ttacaaaaaa aaaaaaaaaa aaaaaaaaaa 50640  
gccaaaagcg gcagagggcc acacatttgg atgcagtgtg ctggcggtgt cctctccttt 50700  
ctggttctct ggtggagaaa ggctatggct gtaggggtgg gcggcctggg aggttgcccc 50760  
gctagttgca gaggtggtca gcctagggtt atcaagggtt tttcacaaca gcagtgcat 50820

tgaacgttca ttttggagat gccagaaact cttagaaatt ccactgagtc ccaagggctt 50880  
ccgggacttg aaaaggaag acacatttct catctccttg gaaggttcct tcagttacct 50940  
aaggcatcat cttcgctaatt gatgtgttaa gccaaccca ggctectggag tcaactggagc 51000  
tcaaagaggc tcattcccac ctgtgggcct ccccatggg gagctccttg gctggctatg 51060  
gcctgcgttt gcctcagaga gtcttgttg gggcctgacc aaggcagact ttggggagaa 51120  
tggtcccttg tgttgggttt tctctctgat attttcttcg ttacctactg agacttaaag 51180  
aaatgtgcct ctgggttggg cacagtggca ctgtaatccc actgcttttg gaggctgagg 51240  
caggaggatc atatgaggcc aggagcaca gaccaactta ggcaacatag tgagaccccc 51300  
atttctgcaa aaaatttaaa ccattagctg ggcgtagtag tgctcacctg tagtcccagc 51360  
tactcaagca gctgaggttg gaggatcgct tgagcccagg agtttggggc tgcagggagc 51420  
tgtgattatg cctctgcagt ccagcctgga tgatagagga agactctgtc aaaaaaaaa 51480  
aaaagaaaaa aaaggtacct ttgcacattt gacttcaggg aactatattg ttattttcat 51540  
tctcggcac ttcctcaaaa gcaaagagac ctaattgaaa ctcagagggc ctgacatcta 51600  
actgattcat tcctgactcc tgtccatttg ccactttgct ttattttatt ttattttttt 51660  
gagactgagt tttgctcttg ttgcccaggc tggagtcaa tggcatgac tcagcacact 51720  
gtaacctctg cctcccgggt tcaagcgatt ttctgtctc agcctcaca gtactggga 51780  
ttacaggtgc ccgccaccac acccagctaa ctttgatttt ttagtggaga tggggtttca 51840  
ccatgttggt catgctggtc tcgaactcct gacctcaagt ggtccaccct ccttggcctc 51900  
tgcgagtgtc gggattacag gcatgagcta ctgcaccctg ccctttgctc agttatttta 51960  
atgaagaagc aaaatgtcaa gttttgtctt caccaatggg ccctccagga acgnnnnnnn 52020  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn 52080  
nnnnnnnnnn nnnnnnnnnn nnnnnnnnnn nnnntgaagc ggaggaggga agacaaaaaa 52140  
agcaaaaaaa agtcaaagag aattatgaaa tgtgacagaa agctcatttt cattcaaatg 52200  
accaatagaa ctatttgga ttcggcagtt cagtcttgtt tatcaagaa cccatgctga 52260  
gccatcctta ggtgattaag aatcaaatat ttatttttaa agtgcattag caaagtcttg 52320  
ctggatgta ttaatatgtg attgatataa tagtaaagga cttgaatcat aactctatct 52380  
ccctaatcat acttattcct gggcttttgc gtcagtcttg accatgggca agttttttca 52440  
gctctctgtg cccagaaatc ccttgcttta aaatgggaag attggctgaa taatcctgat 52500  
cccttcaggc tctgagaacc ataatttaat agtatcaca tcgtgtagca tcagccattt 52560  
ctcttcttaa acaacagcac agattttttt tttttttttt taataaagag gttaccttca 52620  
tggctagata tttcacagg ctcaggacag ttattgcaat ttaatgcaga aaagcaagaa 52680  
gctggctgag ataattaata gaccacctca attctcacct ccttcgtagg taattattta 52740  
ggcatagggg gttcttaaaa accatctttt atgccacttc gaagtgcctg catagaccaa 52800  
gagagatcgc aggacagagg gctcattcaa cgtgactgtg aaattggcac agaagccctc 52860  
agcgttgggt attacagggt ttcaggttcc cctggagccc ctcagcagag agtaaaagcat 52920  
tattgagcat gaaccaagta tatttcagat ctaagaaaag atgattttta aaacttttgt 52980  
tataatcact actaaactgg ttgttttgaa gcatagggtta attagattta cattttctag 53040  
gttagttact tagatgtcat tttaaagact ttttgatgaa atgttatgct taatccacaa 53100  
gtatgtttag ggggagaaat catgactaat gtacttatca gcatgtttat actttatgga 53160  
gatttttttt cagtgaagac atttcagctt taatcccaca tcaagcagtc tttgatgagg 53220  
acacagggat atgtttgtat tagccaacgt ttatggactg ctcccctgcg tcgtgactta 53280  
ccagggtgct cccatggagc aagttgtcga gtccttcac agcccaaaga ggcagacact 53340  
gttattttgc ccttttacat ttgagggctt gccctacccc tacctcatag gtggcacagc 53400  
tgccatttgg acctacgttg ttttgacca gaatttatgc tcttgctaaa ctgcttgctt 53460

caaatgtagt tccgtgtttt gtaaaaacac tgttgctgtt gaatgagaaa cataatgaaa 53520  
gtaatggctc cccaaaagca tgcaaaagac tagcccatgg tatacagttg agagcaaaagt 53580  
tggggatatg atgctgttct tccaacttcc aagacctctg tgggttatatt atttgtttgt 53640  
ttttgagaca gagtcctct atattgcga ggctggagtg cagtggtagc aacatggctc 53700  
agtgcagtct tgacctctg ggttcaagt atcctcctgc ctgagcctcc tgtgtagcta 53760  
ggaccacagg tgcattggc cacttttggc taatttttaa attttttgta gagacgggtg 53820  
ctcacttggt tgcccagact ggcttcgaac acgtaagctc aagtgtacct ccacacctca 53880  
cctcccaaag tattggaatt acaggcttga gacactgtgc ccagctggtt atgaggtttt 53940  
tacattttat gtggtaatat atgcataaca taaaatctac catttaagtc attatcaagt 54000  
ttagtaggca ttaattacat tcatggtgtt gtgcaacat caccactatt ttcaaaactt 54060  
tttcatctct ccaaacagaa actttgtacc cattaagtag taagtactca tttccctcc 54120  
cccactgcac ctggtaacct ctaacctact ttttgtgtct atgaatttgc ctattctgtg 54180  
taccttatat aagtgaatc aggatatttt tccttttgtg tctggcttat ttcacttaac 54240  
aaaagtccat ccatattgta gcatgaatca aaactttatt cctttttatg gctgaattat 54300  
attccattgt atggatatac cacttttttt tttttttttt ttttaagacgg agtttctac 54360  
tgttgcccag gctggagtgc agtggtgcaa ccttggtcca ctgcaacctc cgccctccag 54420  
gttcgagcga ttttctgccc tcagcctcct gagtatggga ttacaggtgc tcaccacct 54480  
gcccggctaa tttttgtatt tttagtagag acaggggttc accatgttgg tcaggctggt 54540  
ctcgatctcc tgaacttgcc atccaccac ctgagcctcc caaagtgtcg ggattacagg 54600  
catgagccac tgtgcccggc cccacatttt gtttatccat tcatctgatg atgatcactt 54660  
gggttgcttc taccttttgg ctatttgtaa tagccattgt agcaattggt gtacaagtat 54720  
ctgtcccagt ccttgctata agtttctctg gtatatacct aggagtggaa ttgcaggacc 54780  
atatggcatt tgtctgtttt gcaaaagcaa aaatggggaa gatcgtgaca tttttaaaga 54840  
gctaagtcca acagggcgtg gatgtcctgc cgcagccacc tttgtgagca ccgacaagca 54900  
acgggcctct aagaaaacat ggcttgttgt aattcacttc ccacctcctc tggagagatc 54960  
cagtgttgt ttaccgagca gagggaagag tttctgccac tggctcccgag gatcagattg 55020  
cccgccctg ttctctggac acctcctgaa aagcaaaact ctgtatcaa tgttgagtt 55080  
taagcattaa caggtgtttg cctccacatc tgcattggtg tgagcaacag caggtacctc 55140  
tgtccttgac atgcaagggt agttggcaca aatgctttca gaaaggatgg cttcaagtcc 55200  
cccaggcacc tgctgaaagt gggggactgg gatgggagaa taagatttta tgcatttttt 55260  
gttttttgtt ttgttttgag acagagtctc actctgtcac ccaggctgga gtacagtggc 55320  
atgatctcag ctactgcag tctctgtctc ccgggttcaa gcgattctct tgcctcagcc 55380  
tcctgagtag ctgggattac aggcacctgc taccatgctt gactaatttt tataatttta 55440  
gtagagacag agtttcacca tgttgccag gctggcctcg aactcctgct ctcaaatgat 55500  
ctgcccgcct cggcctccca aagtgtgtgg attacaggcg tgagccactg cacctggcag 55560  
attttttgca ttttaattgg aactcacctg ttgaatgaac tgatctgttc atggggtggg 55620  
tgctctgtg aaggccagga ttacaagaga ttgctgtctt cctgggaaaa ttgggtgtctg 55680  
atactggcgg gagaaaggct tgggaatata tttctgatat cacatggaca cagcgttcta 55740  
cctggcacag aataaaactt tgtatcacct tctgcatgtt tattctgctt gttatcgaac 55800  
acctgagtat ttggaaatgt ctggtatttt ttgcaatgtg gaaggtaaat atccagggtga 55860  
cagcctgggt ctttaacctt tcaccttcca ctttctactg cggtgttttg gtgtcaacaa 55920  
actaaatcta cattccaggt tgtcacctga ggttagcctg ggatttaata ggcatttttg 55980  
gggaatgaag gtaacagaag aattccgaaa aacctgtctg ggccaccttg tgtctttgtg 56040  
tgataggggt gtggaatgtt catggaatcc gcttcttgta ttactttggt gagttaggc 56100

catttttgctt cagtctgctt tgtttcaata ttgaaatggt attttaaaaa agtccttagt 56160  
gaacatagtt ttgaagtcca tgctctcctg ttctgttact tggcagatga aaaataatga 56220  
tgaattccac aaagatttgg ccatgagcag gaaagaaaaa gagtcgtgct tgtgttggtt 56280  
ggtgcagaat ttctctctc actggctttt gtgtttgttt tgccagatcc attggttctg 56340  
cagggggtag ctactattga atgattatct aaggatctgt ttattatac tttttgttg 56400  
tgtgtgttga gatttctggt tgtttgaaag gtagaataa gaaaaagta ggcaatacc 56460  
ataatccac tgcttaatta tataaagtac attgctaaca atttggata tttctttct 56520  
gattttagct gtgtttatag tcaggcttat actttcagtt ttatatgcat ctttaggggtg 56580  
gtaaatgtgt ctgctttttt ctttttttta aataaattgg aatcatgaat taactgtttt 56640  
tcatttatca ataactgttt aatgatacct taccaggtct gaacataata cttcattctt 56700  
tttatgacta tagactacgc tgtttgaatg aactttccat cagttcatc aggatgaact 56760  
atgcattctt aatgtctctc tccttgacag ttttttgctc ttacaagcag tgcttgaagc 56820  
agcagttttg ttcattgtgc ttgaagtaat tgtgctatct tctgtgggt agctttctag 56880  
aagtagaatt aactagatca aaaaaaatgt gtgctgctaa ttttaaatagg taccagcaag 56940  
ttattttaca caaagggttt tctcaattta tgttcccatt ctcaattgga atcttttatt 57000  
tccctacaca ttaccaagt actgaataac attgatcctt ctaatttttg ttaatcagct 57060  
ggtgaataac agtgtctcat tattgtttta atttgcattt cccggatcgt taatgaggtt 57120  
aagcatcttt tcatatgttt attgggtatt tacattccct cttctctgaa agcaaagacg 57180  
gtgtatgtgc atttggccta actggcaaaa gaattgtagc actgaaaac tgaggaattt 57240  
agaaacacgc gttgtatata ttacgtcgga agagtgttt ctttaggttt attctgaatc 57300  
tccatatgga aatagagtaa tgaaaaaaa ccccaaaact ttgtgctttt gtttgccatc 57360  
tttataaagt taactattgt agtttcttag cttgtatta agcaaccact aatcaatggt 57420  
aggatatccc ctacaaaagt gtccagcagt cccactgttg gtggatttaa gagcatccat 57480  
ttggaaaatg ctacagctca taaaatttgg gtcaataaat caaatactgg agcaatggtg 57540  
taagaaaata aatattaaca gcaactgatg gggcaatatt gatctagtag caagatttct 57600  
ggatggacag aaacaccctg tttggtaatt gtgcttctca ttgtaaaaac atttttataa 57660  
acgttaactt attaatattt gtatgtcatc tccaggaagt aaatattcag agagcacgtg 57720  
ctcttgaaga gggatcttgt atggaatgcc atggccccag tgagagactt gagctgacca 57780  
tatccccctg ggttaaaaaa agggagcagt gagccaagct gcattatgcca agatttaatg 57840  
tgtcagccga gtcaggcgat gtccccctcc tgtgcagttc aggttcagct ccatttgga 57900  
tactccatgt gccaaatctg gatccaggca caagaaagac attgacagtt tgaatggggt 57960  
ccagagacag gcactagccg tgattaaagg cttatgggca tgacatttga gcgggggctc 58020  
aaagaactga atatttacag cagggataaa tgctggatta catggcttgg tgacgtgggg 58080  
accgttggt acatccctaa gttacctgcc acatgactgg ttccccgtag gcaaagagag 58140  
aatcatttct gttaccttg agagcttgag gtgaagggtg ggtctcctt tgggtctgtg 58200  
gacctcaagt aaaatcaagg agcttatacc tatgtgtccc atgctcttag cataacgatg 58260  
ccgttgtagc acccagggt ccaggattta gtagggaat tctcattcgt ctggaagatt 58320  
tagcatccat atctctctc ccttcagaag acacattctg catggaaggt gcttatctct 58380  
cttaagggga gacgcgctag catgttgtct gggctctgtt acaagtctac ggctcaacca 58440  
agagcagaaa gcgagctttt gtcatacagt aaagactctc cactgtcgat cagatgccc 58500  
tagattcatt tttctgccag acattttacc tgcgacagt aggatcagtt tccatcacc 58560  
agctccaggc tgttagactc tgaaactacc ttcgtagtgt tcatgactg cagcagccca 58620  
gcaaagtggc tgaccagaac tatcttaact cactgctgt actctgttaa ggaggaagga 58680  
ggccaacct catccagtga tctttctaa gactgtcagt gatgagcag gacctcgtt 58740

tagaactcag cagcagtagc tccaccctgc agtcatggct tgcatagaac tgagtggctg 58800  
acatgaaaac cgtggcactc cagtgtgctc ttcgcatctc ttaactctgt tggcaggcta 58860  
atcactggcg ctgctttgca aagtggacag ctgctctgcc ctccctgttt tatagtggag 58920  
tggttacgag atgattttct ttattctcta gtttcttata tcaactcatgt gcttgcaagt 58980  
gctctgctcg tatttgtttt ttacgtgatt aacccaaaaa cacttgcaat gccagggca 59040  
tggtcagaa ggtcagttga aattcctgaa atgatagcta aggttagtag gccttgactg 59100  
tttatttttt catttcgttt cactggagtg ccttgccaa aacacctgta gagaatgact 59160  
tggattcaga tagaaatact aaagccctcaa accctgaaga tacaagatgt tgcattttgt 59220  
ggtaaggaaa actctcgcaa gtttgaaaat ttgagtctat ggaaatattt gaaaagcagg 59280  
gggagaacat aagaatggcg tctctttgtg tattgatggg accttgggta ggagtcacaa 59340  
cagctgattt tcacatgtgc tgcttatctt tgaaaagtct caagaagttt gtgaacggag 59400  
ggatatacaa cttgagtttt gtaaggattc attgccgcca tatttggaat tctgggtatt 59460  
tctctgagga acatgtatat ctattcagcc acaaccagag atgggaaggg cagactgatg 59520  
ttcccagctg aaacttcttg agacatccag acaacatctg agaactatga gccccttagg 59580  
agaaaatgaat tagctacggc agcacagagg gcttggagca gtgcctggca tatagtaaat 59640  
gctcactata aatgttagtt ctacatgggt ctgtgatgcc atagaggctg aggccttccta 59700  
gtggatggcg aaactggtag ctgcctgcc cgtggccatt ggtaccaggc tggtgggtgt 59760  
tcaggctccc tggccagttg gcctctccta gaggagccct caaatccatt atggtaacag 59820  
accacgctg tacactgcc aatactctg cagatctgaa tatgtcaata ttgtcttcac 59880  
aggtgttcac catgatgatg atgatgggtt tcatcttcca cgattcttaa tgacagttat 59940  
caatttagaa tttaggtgat tcttcatac cttcttgcc tcttcagct tctttttaa 60000  
tcaagaaagc acagtactgt gtattctgtg ctaggattgt taaataaccg cctttgcttt 60060  
gatcttttca ggtacgaac cagcactgga gcctcattat ggaaagtgtg gtcccatctg 60120  
acaagggaaa ttatacctgt gtagtggaga atgaatacgg gtccatcaat cacacgtacc 60180  
acctggatgt tgtgggtgag tttgcctctc ctctgtgtggc ggctgcatac cagcccatc 60240  
ttgcttgact cgtttgaaag catgaacgtt aagtcctgtt tctcccataa gtttcaggag 60300  
aattggttca ttcttattct ttctactatc attttacaag gctgcttctg tcatctgaca 60360  
atattctgtt ttccaggcag ccagggttta tgagctttgc atgacccca tggttcccaa 60420  
gcgtcatctg tgtaaaagtg acgtgggtatg aaatgtctga cattttggaa gctgagatta 60480  
ctctgaaaat gtttaattggg cagggtgaaa gggtagagat gtgctgtagc agacctttgg 60540  
ttttaaaaga gaagcatcat ttcccccaaca gggcaactgt agaaggccag ctgaagagta 60600  
aagggaaaag tctgaggact gagcctgtg ctggctggaa aaaggatgaat gttgagggcc 60660  
cttcacttcc atcacaagaa agtcattaga cggtagcaat tcagtgtctg ttctctggcat 60720  
ctatttctc tgtgcaaagg gaacctgtga tatgagctta taaatacatt ttgtctagag 60780  
tgcacagata agtaggccat tttaattaaa cattgaagac cacctcgctt gttgtcttgg 60840  
aaattcaagt ttcttcccag gttttgcctg tgatgatggg gctttgttgt aactaatgaa 60900  
gaaaggaggt ttctgtgtct tggaggattg ctaacatatg gaactctacc caagacatac 60960  
ttcattgttg caggatggca ggttaagatc ccttccatgt aggggccatc ttttctcttt 61020  
cctgtcatgt gccttgactt tcaacctgcc accttgagcc ctttcttttg gtttgcctc 61080  
ccctaaatac aggttgctat cttctgtgtg agactcaact cagttcacac tcacgttttg 61140  
ccgtaatgtg actgttggtg attccacaag cccacaccac ccactgtgcc tctgtaaagc 61200  
aagtgtctcc tacatcatag cctgtgcgtg tgtgcctagt atcatctcat gtgtgggtct 61260  
ccttcaataa aacatctttg aagagggaga ccccgttaca tattggaatt gcccaaaaag 61320  
ccactaaaaa aataatccaa aagccttgatt aaccaaattg caaagatttg gtttaattaa 61380



atttttaggtt aactgaaaag taaacaaaac tattttgatt ttctgtcaag ttaaatggaa 61440  
ttggatctac gagacactct gccttagaaa gcatgatata accattactt ccatttgcatt 61500  
ataagcattc agggaaaata gtgtttatct gaagatttga gttttgttct tcagaagcct 61560  
tcactgtaaa tttgataggt ccttgaataa tgttgatcct atagatattc ataaaagagt 61620  
gagttttaga gctctttccc catagagaaa acatgtggca tgtttcttag tgagaattac 61680  
catgttcaga tattttacaa aacaaacaaa aagagaagta acactcaaat ttgagaagaa 61740  
aatgattaac atttgtgttg gcattgatac actgtaaatc cattgatcaa agagcatatg 61800  
acttggcctt tacctggggtt cctgtgtgta ccgaatgtga cgtaaaacta ttctatttta 61860  
gggaaaagaga gattttgggc taaatgttct aaatacctaa ttttgaaatt aagtaattta 61920  
ttgtgggaaa aaataattga gctatagcag tcttttggga ttatagcttt gcataggtct 61980  
acacatcatt cattaggtctg ggctggggcc attctaggca tcgtggagtc agatggcggc 62040  
cactccggtc tgggctcttg cttaaagcaa gttttaggtt gagttgttat gtaaacatt 62100  
caaaagcccc tcacccacc tccccttga gctttctggc ggctcatccc tgtgaagccc 62160  
tgaaatctct cttagagttt aggggttggga tttgaattgg gctgtgaaat aatggaattg 62220  
tgctgtctaa tgttaatccc ctggcaatca gtcttgttga aaagagcgta tgattcagtg 62280  
gtgtaatgta gagagagcgt ggagtgatg gagtaatgca gagagaggcc tgattatgtc 62340  
acaaatttgg gagatcgccc agctaaacac gggccaataa tgacacaatg ctggttggga 62400  
atatccatta aagctcaact ccaataattt tccaagcctt gaaccttctt tataaataga 62460  
agccaaaagt cagtggagta aaaggcattt tcagtaaaga tggaaagtgtg aaatactctc 62520  
atctctgtc aaaaccctag taattgcttt gcgaagcact aataaaataa gaattgagtc 62580  
agctaaagag gctcatatag acgtacaggy ttggcagtc ttctgaacat ctgagcaagt 62640  
ggaaacaaaa aggattcaag cttaagcagt gaatttctgg tagcccacag gcccaaatgt 62700  
gatacactgc tgtgtgataa cagcttttca gccacctctc tgtttcacag aaaatcagaa 62760  
accctttccc agtgaaagcg aagtcccatt ctgcccaca ttctttgggg ttttattttt 62820  
gtttctatga tacatagatt gtggttcaga tattatgaag catcaagatg ggtgagatct 62880  
ttttattgaa attcttctct ggaaaggcat tcccataagc actttaatgt aaaagccgtg 62940  
taatttaagt gacattcttg tgttctagaa ttaaacggca agccattgtt gtgtgtaagg 63000  
gaaatgcttt cattttatggg agccctttta ggagcctggc ttgatcctca ttaaaattga 63060  
caccattact tttagctat ttactgcaag ggaaaattag tgtgatgtc cacgttttgg 63120  
taattgtggc gataataaaa tgggctcccc taaagtagct gtggctccgg gagtgggcga 63180  
gccttcacca tcgttcata ttgagtggtg ccagagccct ggattctgac tgaggtcctg 63240  
tcactgtgaa gctacaatgc tgggatgact cattgcactt tccttgtgtc caaaaatgaa 63300  
ggaaactggaa ctcatgaatg ttagaacaaa aaaagcggct tatgccgtgg aatgaacagc 63360  
aggtttgtcc gtggccatac ctggggcccc tagtgaattg ggacaaatta tttagctttt 63420  
ctgaggtctt gttttatcat cagtaaaatc ggaatgatga tacttacctc attcctatga 63480  
tggttgtatt aggtttctta gggtagccct aacaaattac tataactaa ttggcttaaa 63540  
acaaaagaaa tctattctct tacagtctg gagcctaaaa attcaaaatt aaggtgttgg 63600  
caagtccac gccctctcc cagcttctgg tagctgtcct tggctttag aggcaccgct 63660  
ccaatctctg cctccatctt catgtagtca tgttctcact gtgtgtctca aaatctcctt 63720  
ctgtcttctt ctgtgagga cacctgtcac tggatttagg gccaccgta aatccaggat 63780  
gagctaacct tgatattttt aacttaagta cttttgcaaa gaccttttct tcaaaataag 63840  
gtcacattcc tagtttccaa ggcttaggac gtggacgtac ctctcaaaag gtcacccttc 63900  
agctcactac attagttacg aggcattcagt tgggttagca gatgaaaaca tcaggctggc 63960  
aggtaggtgg ccagcaacaa atgctgtgtt cctcccttcc aaaccaggat tcttttgagg 64020

gtagaatgg atctttaata gcttttatta gtctcaatca gaagtcttat taaacaaaca 64080  
gaatgccatt ttggggctgg gcatgggtggc tcacacctgt aacctagcac ttgggggagggc 64140  
cgaggcgggc agatcaccta aggtcagcag ttagagacca gcctgggtcaa catgggtgaa 64200  
cctcgtttct actaaaaata caaaaattag ccgggtgtgg tgggtggggcgc ctgcaatccc 64260  
agctactcgg gaagctgagg taggagaatt gctttaacct gggaggtgga ggtggtagtg 64320  
agccaagatc atgccattgc actccagcct gggcagcaag agtgaaactc catctcaaaa 64380  
aagaaaaaag aaagccgggc gcggtggctc acacctgtaa tcccagcagt ttgggaggcc 64440  
gaggcaggca gatcatgagg tcaggagttc aagaccagcc tgaccaacat ggtgaaaccc 64500  
cgtctctacc aaaaatacaa aaattaccca ggggtgggtgg caggtagctg taatcccagc 64560  
tactcaggag gctgaggcag gagaatcgct tgaacgcagg aggcagaggt tgcaagtggc 64620  
tgagattgtg ccattgcact ccagcctggg cgacaaagt agactccgct tcaaaaaaaa 64680  
aaaaaaaaa aaaaaaagcc attttgggac ctacagacgt ggcagaggcc tgacattgac 64740  
atttctgct gaggtttcca cttttgatta atgctgtcat caaggccatc ctgagactga 64800  
tttggctgtt ggacttgcag gagaggggtg tggagtgtga ggacttgaag ttcattggagt 64860  
tggtctttt acgcccacc ctcctctccc ccactttgca gtggagggaag ttcagggttca 64920  
gctggggtaa gtgatttgc aagtaagggc ttggagcagg cattctggag ctggggcctc 64980  
catctgggtg ttctccacgc ctatctgtat gaatgtcct tgctctccaa gcggacttct 65040  
tcatttgatg ttactgtgg tgtgtttcag tagtgactgc cacagcccga ctctaaggag 65100  
gtgctgtgt cacccccacc tgctttcagt tctttgctgc agaagacaga atgtgcggga 65160  
gaatcgtagg accttaaaa actagtgtct ctctctact catgtagacg atttggcttt 65220  
gaatcgtagg accttaaaa actagtgtct ctctctact catgtagacg atttggcttt 65280  
tatgtcaagc tttttgctc gcatttgata ttttgggggc aaagtacagt ggaagtggaa 65340  
atggtgcctc tgggtttgtc aaggccagat atgtcttct tccactcctt gtgtttttt 65400  
agacagagtc ttgctttgtt gcccaggctg gactacagtg gcatgatctt ggctcattga 65460  
aacctctgcc tcccagggtc aagtgttct cctgcctctg tctcctgaat agttgggatt 65520  
ataggcatgt gccaccatgc ccagctagtt ttttagtatt ttagtagaga tgggggttca 65580  
ccatgttggc caggctgtgc tcgaacacct ggcctggagt gatccgccc cctcggcctc 65640  
ccaaagtgcc aagattacag gcatgagcca ccgtgcccgc tcttttatca gtttaacttt 65700  
ccagaaattt gtccccctg cctgtccgca tcccttcaa tgaaagctgt aagcagcagg 65760  
cagttgttgt ttggggggcc atcagaggcc gcatgtcact tctggatggg tcaggcatca 65820  
ctaccagccc tgacttgat gcggcagatc agcatggcac tgtcaactag cccttgacat 65880  
aaatctgttg taactcagcc ccagacatga taggacacag cctgaaagcg cacaggaatc 65940  
cgtaccagag cgaagtcccc cctcagggtg gtgttcaaga atgaagcgtc ttttattcca 66000  
agcactgact gataagctcg aatgtggagt tgacacctgg aaggaggttt tgggagcttt 66060  
tggcagccca tccccagtgg aagaaggagg aatggctgaa attgttgact gcttggggca 66120  
gcctctgtcc caggaagaca aaggctccag tgtgatagct gagctggggc caggggacgg 66180  
aggcacggcg gactccctca aaccacagct ggagtgtgaa gtttgactg tctcctgggt 66240  
tgggaacaaa gtagtgtta agtaaatgaa gaagcgggtg cctagttaat taattaacct 66300  
gttaattcat tactgaagct gtcaagattc agtcattcct gctcacttgc tcgtgatgga 66360  
aggctgcac tcagtctcgg cttccatcac actgtggctt ctggatggaa tttttgttc 66420  
tgtgtgtgat aaggagtggc tgtgtgggca tcatttaaat gacatgattc tgcacgtcca 66480  
gagacgttag gatattgaaa gcctgacct taccttttag gttgtcatgc ttgtacctgt 66540  
tcctggcaca aggtctcggc tccgtagagc cctgtggggg tctgaacttg aagcctctt 66600  
acttagaggc ttcttgccca gggctcattt gattttccat actcctgact ttgctgccag 66660

tgaattcttt tccatttctt gctctgagtg taagacttgg tgcctaccc tgacacgggc 66720  
tctgcatgcc agctctagag ttgcgaaatc tcaccggagg ggggcagaaa gccctctgt 66780  
tgagaaggga ttgggggtgg gtgccaggta atgggtcaca gcgacagcct ttctaagtgg 66840  
gcttatttag ttgacagatc acggaaccgg agcggagttg aggaggaagc accttctctt 66900  
tgccgcttcc gtgtcccccag cagccatctc atcctgttct tataaaccat cgctgtcaca 66960  
gacaaccctt aaggggtctct actctgtgcc agatgccctc tctggaggtt caggtggaaa 67020  
ttacgtggag aggggtgtca agttctgttt ccacccttgc taactctatg gccttagaaa 67080  
aggcatggaa cctctgagcc tcagtttctt tgccgtgtaa atgggggtgat gactgtttcc 67140  
ttgtagcact atggggagga ggaggtggta ggagaggcag cgctttttaa taatagtacc 67200  
atgcaactgt tagtcgttat tgtgcgttgg tcccatactt cctcttgcat ctccagacag 67260  
agccgtgcac cctgagccca tctgatgaa aggaggggtc agtctgtcc ttctctccag 67320  
gatagagatt tcaaaacttc ctttggtagc tactgtttaa tgagcttttg attgctacaa 67380  
agcagctttt cattctgtt tcacaacagg gatcccgagg ggcaaaggct ggttagtggc 67440  
agctagatca ctccaaactg actgactggc aaatacagac tctcccgag aactgacccc 67500  
agcaagaagc ctttgggagc aggtggtatt ctgcggtgtc cagctccctg ggggtgggagc 67560  
aggcacacgc cagcctggat ggggcatggt agaactctgc gatgtcagct ttttgtcac 67620  
attctctgca ggctaccctg tgctctttgc ccaccattg aggaaggaa ccttattgat 67680  
tgctttcgat tcttgacagg ggctgggtg aggtggctgg agagagggct aatatttgtt 67740  
ctggcattta atcttggcat ttcatttatg gtgtgggcaa agaggatgta gaagtgttaa 67800  
aatcaagtta atacttaca gttttatgta agaagaggtt acctggagat tcaggtgagg 67860  
atggggcaga gagaagctg cttctgtcag agcttgggca aataaacttg ccatgaaatg 67920  
tcaatttagt gatggcagta agagtgtgca gtaatgtgct ggaacttagc gaggtttcta 67980  
tcagcgtgtg ctgaattgaa ataatacaaa aacagtttaa taagtgtctt atatttggag 68040  
ttttgtggtt cttaacattg caaattctga agcaagaaat tagagtttct ctctaaactc 68100  
atttactcat gtggctttat caacggctgc ctttgtaaac cgaaagacct cagttgggaa 68160  
gttttatgag acggagtctt gttctgttgc acaggctgga gggcagtggc atgatcttgg 68220  
cccactgcaa cctccgtctc ctgggttcaa gtgattctcc tgccctagcc tccgtgtagc 68280  
tgggattata ggcgacatc atcatgcctg gctaattttt gtatttttag tagagatgga 68340  
gtttcactat gttgccaggc ctagccttga actcctgacc tcagatgac tgcccgcgca 68400  
ggcctccga agtgctggga ttacaggcat gagccaccgc acctggcctg ccaactcttg 68460  
ttaagatgtg agtggtggaat gctgtgtggt cttcccctt taaaagatgt gtctgttgg 68520  
ttgctttcac ggattccctc tcccttagga gacccggctg ttgtattcat ggtcttcatg 68580  
cttggtttgt tttcacagtc agagaaggtg ggatgctgta gggttctacc tacaggtagg 68640  
atgtgctcct tacttagaga tttggaaggg tggcatcaga gaacctagt gcgtcttca 68700  
tgatagctgg tcaaatgtgg gtgtctgtgg gaaatagatg gcaaggggtg tcggtgttgc 68760  
tgtggggagg ttgttctgtt tctcttctg agaagagaca gatgaggcga tgaggcaatg 68820  
ggagcctcat tgctttggct tggagggaga aaatagagca gactctcta gctgggattt 68880  
tgtgtatttg ctgagttgca gtggttaatt ctctatcctt gaagcacgtg gcacgctcac 68940  
gcagccttta tgtggtcgag aggggtgacag tcaactgaat gaggtataag gctttgccct 69000  
catggagtgc ctcaggtcac attttgaggt cgaagacct aaattgggat ggaaatttct 69060  
agatcttgat ggaactccaa ctttttctct ctttctcaaa gcctctggat tacaggattc 69120  
tctcaaacaa ggctggcagg aattctgtcc atcccaata agtatgcaaa tctacaggtc 69180  
aaatggtgcc ccagacatat tcccactgg atcagggaga ttgtggtctt ttgagagaca 69240  
aacattgaat attattctag taggatcttt tggaaattat gctctattag aaaaaggaa 69300

ttttcatttt actggttcag tgtacactct ggactgaaac tgaaaggtaa aggacttagc 69360  
ccttttaaatt ttacatttttg gccgggtgtg ctggctcacg cctgaaatcc cagtactttg 69420  
agaggctgag gcagggtggat catttgagat caggagtttg agaccagcct ggccaacatg 69480  
gtaaaaaccc atcttacta aaaaatacaa aaattagcca ggcgtggtgt tgtgtgcctg 69540  
taatcccagc tactcgggag gctgaggcag gagaatcact tgaacgtggg aggcggagggt 69600  
tgcaagttagc tgagattgtg cactgcact ccagactggg tgacagagtg agactccttc 69660  
tcaaaaacaa acaaaaaaaaa ttaaaatatt aaaaattagc caggcgtcat ggtgcacacc 69720  
tgtagtccca gttattctag aggcgtgaggc aggagaattg cttgtaccg ggaggcagag 69780  
gttccagtga gctgagattg tgccattgca ctccagcctg ggcaacagag cgagactcca 69840  
tctcaaaata aataaataaa ttttacattt tggactgaaa aaacaaaacc attctgtatg 69900  
tgagactctc accgagtgtt catagggagg gactggggct ggggcctgac ttgaggcttc 69960  
ccatctggct tggacagtga gaagagcagt ggcgttttga ttgaaggctt ttgtgatctg 70020  
gggtgactatt ttgaagtttc tctttaggct atgctgtact tagaagtatc tagaaccgtg 70080  
attattttca gtttctgagt ttcatctcca agaaaacaaa tgggattttat tgttcagcct 70140  
ctcatgttat tccatcaaa gggaggcatt tcttgtttgc tcagatgggc tgaaagcttt 70200  
tacttctgct cgaaccgccc taggagcaaa acaaggcatg tgagagagat gagcatgata 70260  
gattttctag acttctctag aagaaaggct ttttagatgg tgaaggttga tgaaccttg 70320  
cagcattttt acaatggaca tccctctatg tctgcacatc tcaatctcct tcattcttac 70380  
tagtggccaa tatgctcttc ttccacggat gtagtacaat tcgtttaatc atattaaaca 70440  
atatgattgt tgtgcagatc ttttgttttc cagtaaaaaa aaccctacag cgacaagctt 70500  
tgtccacact tattttagtg gcatctgtgt gaatatTTTT ctaggacaga ttgttaaagg 70560  
ttggttaact ggatcatttt ttagatattt cagtcaaaaa ttttaaagct aaggggcctt 70620  
acttacttgg agtgggttct gtctttgacg gagggctccc ctgtggtttg gtttttagct 70680  
tctttgcaaa tcatttgaga gaagatactc taattgggag ttcaccctt gtaataagag 70740  
gggtataccta attcctggac attaaaaaag aacaaacttt tccagctcga aggaacatt 70800  
ttcttccct gaaggaaacc cagctatgca gacaccagct gataatcttg cattcctgaa 70860  
agatgttgca cccctatggc aagtggcggc tgctgaggct ctgacgtgac tcccaggcat 70920  
gaacgctctc agctgtgttt acctcagctc ctccggaggg agcctgggag actgacgcct 70980  
gagttttaca tcagtgtcaa aacccaagca caacctaggg agggacctcc tgcctagtgt 71040  
gtgtgggtca ggagatagaa aagctctcac tgagtaaaact ggacaaggct aatatacctc 71100  
gctgattgag aaggtagggt ttccatgacc ctagaaaattg atcttgttca ctctgagata 71160  
ttgtcacact tgttatgtct cctttttaa aaaaaattgt ggtaaaaatat acataacata 71220  
aaataacact ctgtaaccat ttttgaatgt gtaattcatt tacattaagt acattcaatt 71280  
tgttttgcaa ttatcattat tgttcactc caggactttt ccatcatccc caaacctga 71340  
ctccttttag caaaagagac caatttcgaa cgtaaaattg gcataataac tctctggtta 71400  
ccaaagaatc ttcagtcttg gtgaaacttt ttgaaggcag agagctcaga gtgtcttaaa 71460  
cacttggggg gtaaataaca cacagcccta ctctgtaat tcgcccaga agaccctaat 71520  
tgatacccg ctggtagaag cactcaacc ccaagccaaa taatacagcc tgtaacatta 71580  
attaggaag gtactaataa tacagcctgt aacattaatt agggaaggta ctttgccctc 71640  
acctgcttg gtcttcccag gcctgagcc cagccagcac ttactctct tcttcacttc 71700  
atcgagcaag cacaaaggca ttagtgtgt tttgttcta gcatttcaca ggggtgcagcc 71760  
tccataagtc actttgtgac tttagtgtg gagggaggac acttcatttt taccctaaaca 71820  
agtttgttcc gcagacttca ctctctctgc aaagagacgt gtgtgtttta gaggaagtgg 71880  
gagccccagc cgattctgca agacttccga gagtccagata tccagacaga agatgcggac 71940

acctgggtga ccagacagcg aagaggaaaag aacaaaacga gcatgtgcc a gcctgtgag 72000  
ggagaaaagg caacaacca gtgacctcc acagaaatgt gtttaaaca aacaaaacag 72060  
gtgattctgg gtgccagca tcccagccca ctcacttatt ctaggagggtg acaagccaag 72120  
atactggctg tgggcacctg ggctctttct gaagggtggtc ttcctggccg tcatagcggt 72180  
ccctttttct gctaactatt tttagtcttg accttccttt gtgctgatct tcagaagctg 72240  
gagaaagctt cgtattttctg ggaaaacaaa acaaaactca gaacccaacg agatttagcc 72300  
tgtcaggctt gagtgcgtta ggtggagtct tgacaaggca atgaactcat tctactaatt 72360  
gtaattagcg tggggccttt agcaagttct gggctcctca gacttcagag agctttgatc 72420  
ggcctcctcc tcctcctaatt aacctgcct catgctaact ggttttagtgc gtttttatgc 72480  
aacaaaagca accaccgctt actctttaga aaaaagctag gcaggcttta gaaaaagaat 72540  
tctcagttgt tttcacttgt cctccaaatc gcagaatgtt ctttcctttt tcagctcttt 72600  
ggcgttgcta agagactgcc attttggagg aaaggtaatt aaattttgat ttaatttaa 72660  
agacagagca agcagggtta tccacgctcc ttacatgaat gggggcctga gagcaggaga 72720  
ctggctgttt ccagatcaat actgggaact ccgtgtgatt cgagtctctt ggtgtgtgac 72780  
tgccggagag aggtggcttt gaaatggctc tttgtggcaa gtactgccta acttttgggg 72840  
agaaatgctc aggagaccag tgtgagctgg gaaaccagcc actctgtgct tgattaattt 72900  
ataggtgtaa ttaagagcc tggttctcct tctgatcccc gggatgcctg tttactgagc 72960  
ctgtagacat gaggcctctc ggctcgggtg acatttttta tggcctttgc tatgtcagag 73020  
caaaagtgt agatctctta tgagcaaaata tattactatg tccagaggag gactggcatg 73080  
ttataaaatt tcaatggcta attaacaagg atttattctt tgtcactcag gtattttttt 73140  
cctctctctc tctctctctc tctcctcaa taatgacctc ttggaaggaa gcaggctgtg 73200  
ctttcctgct gcagtcttta ggtgggttat ggctcccagc tacagagcag ggcttgacag 73260  
agcccatcct gatatttcaa ttcttagcag ctgggctttc tgcttagta gagtggacac 73320  
ttgaagaaa ggggcgagac cgagagttag agagagagaa cgctgggaga gaatgtattt 73380  
tttaaagcac ttcagcctgt gtttactacg cgtttatttg gtggaacctc attccagcag 73440  
tgcagccaac tgtcccgga gcagtggccg caccctttgg actgctttcc attccgtctt 73500  
aatttggaat tcacacagcc accttccaat cactcttttg aaggttctca tctgtttcca 73560  
ggtccatgca ctgtgcattt gcaacctgct gaacctcaga acgtctattc ttatatgtgt 73620  
atatatgtaa ttaaaattac agtaaacaga ggagctactc atcagcctat tttccatgtg 73680  
tttatctcac tccctttgta aaaaggaaaa tctgttttat ataatatctg agagttaaag 73740  
atgctagaag agaactctgc ctaaaactgt aaatccttcc tgtccttctt ggtggagaag 73800  
atgtgatttt tggttatcaca tagaagaaga gatgaactag cactgggctt tagtctctcg 73860  
cccagagata atacatcagg ggattctttt tatatcagtt tgttgcaaaa aagtgtgaaa 73920  
cttgaggggt ttggtttgcc cagggaccgg ggagggtcct ggtggggaga acacatgagc 73980  
tctttgggtc atcgtccctt tttgtctctg cgtagtgcc gctgggccag gccacgaagg 74040  
gggccccac tctgccagc ctgcactctc gtccaccatc tgacacctgc catcacctcg 74100  
gtttttcaga agttaggaaa ggagtccagg cgctgtcatc cacttactgt tcaactgttc 74160  
tgaggttctt agggattccg aggggtggtg gatcgctgaa gggttcgaga ggaggagcgc 74220  
agcgttcggc agatgctggc atcctgggcc cttttccaag acgtccaggc ctctcctctc 74280  
gacttgttta agggcagaga ataaggttgc aaaggaaatc aaagcctgat gtggagaaat 74340  
gaaacatgag acctactgac tttttaaaaa cattttaa atacattctt aaggtttcat 74400  
tttatactga aggcagctgt aataagtttg gaagacagtg taaggtttct attacagaac 74460  
aatcctgctt gcagtttttc taccagaagt gagaaggggc ggagggggag tggaggtggg 74520  
taagaggtta ttttgtataa ggtgagaaaa tttgaaaaga tgaattcaag actgcaagcg 74580

tgtaacattt ggtatgctgt aatttgcaaa tgcaataaca ttaaaccatt gcaaacttgg 74640  
ggtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgtgtata catagccggg 74700  
atagcattgg aataacttaa taactggagc tcagcagcac tttgaccaca agggaaacaa 74760  
gactgcagct ctgtagtggg ccctgccagt gttgcctcag tgactaaatt ccctgccgaa 74820  
gcctggcgca ggccagagat gtcaggcggg atgaaagcac tcattgttca cggggcatca 74880  
tggtttggta ctgcatgcac aatgtttact tgtgaaacga tttattagaa acaaatatgt 74940  
ttaagaaaga ggacttggtt tgaactcag ttgatctggc ttatgacatt taagatttta 75000  
tgacctttgt ttctaagaat agatgtgtag gccactgtg aatatttatc ttaaacgcga 75060  
cccacactac acacacacat gcatgtacaa gtgcaaaact ggaaaacgga gccagggcat 75120  
gaattgatac taaagtctac atttctgtgt gaaggaataa accttcttac tatttgctag 75180  
gtgcatagga gcatagtttg tgacctgttc tggcaggatc tagcccagag gacagcttcc 75240  
cctcgtgctg tgaagtctct tggtaggagg cctggggagg agaggagcgt gtgtctgttc 75300  
gtgcgcggaac ttaactctgc cctcccaca tggatgaggc cagctgggat taaatcagac 75360  
ctcggtcact gcccgtgtgt gacagggtccc tggggtgtcc agccagctgc taggcctgac 75420  
caggaggctt gctggggccc atccctgggt cattgtatga gccagagagc aagggtttca 75480  
cctgacgtct gaagggggcc agctttgaga ttttctgccc accaacacca gaagtcttaa 75540  
cttcaggttc tttgctcagc ctacatgggc aatatagggg cagatgaatg atttctttgc 75600  
ggctccagta tccttatctt tataatgtga aaacatagat gtctgtaaaag tgatgggaga 75660  
ttctggaatg aaatgtgcta agagtaacca ctagcacttt ttctttcttt ttaaagacca 75720  
gcaacaggct tatgcagtaa agtcaatttg cacatggtct ggctcttgc caacaaattc 75780  
cactagatga tgttttaate tgaaagggtcc aatgatgtag atatctattg ttctaatttg 75840  
ctgtttccag cccagtgcac ggtgattctc aggtacagtg cagagacatc cttggtgtgc 75900  
tgagctggct gagtctctct catttccctc agttgttttt taacactgga ggctagggtg 75960  
gtggtaccca cacctagggg aggaagagag ggaggaggct ggtaagtgca ggctgttgg 76020  
gatggagttg tattcatgta tggacacatg attgtgtttt gtgtggcttt tgacagatct 76080  
gtgtaggaag gttccagtaa gtttgtacga caagatcagg tagcagctctg gtggtctggt 76140  
ggttatttaa ttctttttat tttatttcat tttattgttg caagaatgct aagcatgaga 76200  
actaccaatc cacctaagtt ttttttcttt tctaagacgg ggtctcact tgttgcccag 76260  
gctggagtgc aatggcatga tcgtggctca ctgcagctc aacttctctg gctcaagcca 76320  
ttctctcacc tcagtcctaa gtacctggga ctacaggcat gcaccacat gctctggctaa 76380  
cttttgtatt attttagag atagggatct tgctatgttg ccaggcttg tcccacactc 76440  
ctggcctcaa gcaatcctcc tgcgtcagcc ttcaaagttc tgggattatg ctcaaaggca 76500  
tgaaccactg cgctgggtct tcaactaagt tttcagtgt caatacgttg ttgttgacta 76560  
taggcacgat gctgtgcagc aggtctctag agtttgcctc tcttgcttta ctgaaacttt 76620  
atgcctcttg attgcaactc accatttctt tccctgtccc agccctggc aaccaccgtt 76680  
ccgtcttttg attttatgaa tgcgatgaat ttagatacct catatcagtg gagttaggca 76740  
gtgtctgtct ttctgtgact atcctgtttc acttagcatc atggcttcca cgttgctaca 76800  
tattgcacca ttctctctt ctctcatggc gaatagtatt ccgttgtgta tatagccaca 76860  
ttgtaaaaat taatcctttg gcagacactt agattgattc catttcttgg ctattgttaa 76920  
tggtgctgca attaatatag gagtgcagat cctgattgca gttcttttag ataaatagag 76980  
aagtgggatt gcaggatctt agggtagttc tgtttttaat ttttgaggga acctccatat 77040  
tgttttccat ggtggctgca tcattttata ttcccaccaa cagtgcgcag gggttccagt 77100  
gtctccacat ccttgccgac acttgtcttt tttttttttt ctcccaccc tgacaggtgt 77160  
catgtgatg ctccctgttg ttttgatttg gaacgcgccc gatctcgtct gatttgcatt 77220

tctctaataga ttagtgacat tgagaaactt ttcatacacc tagtggccat ttgtgtcttg 77280  
gagaaatgca tagttaagtc cttagcccat ttttccatgg gtattactta acacttgagg 77340  
agtctcatgt gtggttgcta gcacaccttg gcttgattgt ctccacaaaa gttttgcaga 77400  
gaccgcctct tagctggaga gaagcctttc caggcataag atgagagggt gtattctttg 77460  
ttgagaacgt gttctcgaag gagagagagg caagacaagt gaagctagga agtaattttg 77520  
ggataccatc tctgcccttt tatagggcag tctaaaacat agccaggagt tggaaaccag 77580  
catctcctta tgtttcattc agtgccatat tggaataagc taagaaacat ctacttgtagc 77640  
atttagtaac tggcatagag taacacctga tattcatcaa agagctaaat ggggtaataa 77700  
agaatgaatg aatggagtga attccacaat aaagagggtga atcccattat taatcaaate 77760  
tggtcataac tttgggcttt aggcctttagt ttaattttta aaacaaagggt tggaggtctt 77820  
ctcagagcat cttagaaatg tactggagcc gagcgtggtg gctcagctct gtaatccag 77880  
caatttggga ggccaaggca ggtggatcgc ttgagcatag gagtttgaga ccagcccagg 77940  
caacatgatg aaatcctctt tctataaaac atttgaaagt cagctgggagc tgggtggcgt 78000  
tgctgtagt cccagctact caggaggctg aggttgaga atcacttgag cctgggaggc 78060  
tgaggctgca gtgagccgtg atcatgccac tgcactccag cctgggcaat gaagtggagc 78120  
cccgtctgag aaaagaaaaa aaaatgtatt gggagacatg tgcctattga aaccattttt 78180  
ggtattcaga gtgtctttaa agttagtctt gtcatttgcc tgtgatgta agcttggtg 78240  
tgaggtgagt ttttgagatt atctcaaata ggataagtga agaagcttcc cccccctacc 78300  
atttgtcact tagattgtca gagtagaatt tcttcccgtat tctatcaggt ggcagtggac 78360  
agccaataac ctgggatgta ataagttctt tcttcaattt tctaagtaag tgttcttttt 78420  
acaagggtcg cgctccgga gtctcctttg aagtcgtttc tgttattcat gggggccacag 78480  
tggtatttca aaggtgtcag ccagcaggct tgaggctttt ctggcatgag gtcactgaca 78540  
gcccctctgga caacacagct tatttattgg tctctcattc tccccctccc actcctcctt 78600  
tcttccctct ctccaccaga gcgatcgct caccggccca tctccaagc cggactgccc 78660  
gcaaagtccct ccacagtggg cggaggagac gtagagtttg tctgcaagggt ttacagtgat 78720  
gcccagcccc acatccagtg gatcaagcac gtggaaaaga acggcagtaa atacgggccc 78780  
gacgggctgc cctacctcaa ggttctcaag gtgaggactt tctgaatcta aaggtacca 78840  
caactggggt ctctctcatg ggtttggcca caggttcttt gatttctctg tggagttgag 78900  
agaggatgat tctctttttt gactagccag cagagagtgt tctaaggaat taacagatca 78960  
ttacacttgc tagtagaatt tcagaaggga actatggagt aggggaagaa ctactaaact 79020  
tggggaagaa ctactaaact tggagagaga atagttcagc tatttatcag ccctgagatc 79080  
gcagacattt aggtcttagct gcgcctctat aaaagtagag atcgtgatac tctgtcccc 79140  
atagggcggt tgtgcagaat aaatgggatg gagtggatgg aaagagcttt gtaggctcaa 79200  
ggcattgtgc cagtgttgat tgttactctg atgttggttt ctattaatag gacattagga 79260  
tccaatttta gtagccacgt tttagaaaca atttggtatt ttttttaac aaaaacaaaa 79320  
caaaaacaaa ccttgacctt tgaatccat tcagagggtga tttagacaat aaactctagg 79380  
tcataatttct gcaccagtga aatgttgaac aaggaaaata tcttccctc cttattttct 79440  
atttgcaagc cccattttc atagcatctg cctctttttt agatctaggt ttgctcttca 79500  
ggagactgag gacaggggca gctaagtctg tacagctggc tcttaactec ttgctacca 79560  
cgctcccat gtctagttgc tcatggagaa tgaatgtcct taagaagaac attcttccag 79620  
tagaaccata ggtgaccag ctaagaactt tcagccaatg aagtgttctc accagcta 79680  
aattccaagg atcaaaaggca ttgggaaaag atgaccaacc tggggaccaca cccgacctat 79740  
ccagttagct atcgctcaca cctcctgccc cttctctcca ccaggctctt ccgttgctca 79800  
ccactggact gattttgttc tttaaaatcc gcagcccttt aatgccgctg tttagacgta 79860

atggagtttg ttttcttgcg gtgtgttggg ggtgggacca tagacaatgc taagaccttc 79920  
ctgggttgccc gttatattgt tctcctgtgt ctgttctagc actcggggat aaatagttcc 79980  
aatgcagaag tgctggtctct gttcaatgtg accgaggcgg atgctgggga atatatatgt 80040  
aaggctctcca attatatagg gcaggccaac cagtctgcct ggctcactgt cctgccaana 80100  
cagcaaggta acaatgcttt catttttgc tttttttaa aagaaagctg gatatagaag 80160  
ctgaaaagac ttggtgcttt gggagactgc aggcagctta taggataact cttgtggcct 80220  
tggtatattt ataataatct ttcttcggtg atgcagctgg tatgatgcca gtagccatgg 80280  
aaaaatgccc acaacgttca aagtgcctgc tccaatttct tctagagatt agcctccacc 80340  
cccaccagtg ttttaagtgt ttccctctgg ttgatcttgt ttaggctgca catttcccat 80400  
cattactgca cattaacacc atttaaaaca cacgcttcca tgctgttta atacggggca 80460  
tttgagtatc agcagagttt gtctccttct acttcaagtt tttagggaaa tattggcaag 80520  
atgcaatttg ttcaacaaag catcatttct ttggttgcac ggttgatcct tatgagtgc 80580  
tgttcttgac cttgttgac caaatttgag gggagctcat cttaatgaat gtactactgg 80640  
acgctactaa aggcaaaagg ttgacttttt aggtttgtca tgactcacat ccaaatgttt 80700  
attaatgaaa agagaaaaag cccagttttt ttggttacca agatgatgct tgcttccatt 80760  
tctttttgtc aatgctatgt agggcaagat ggtatcgag aagtaaaaat aaccagagcc 80820  
tggttaacaa gacaaccttc caccccaatt ggttcccaca gggccaggag gatgggtgag 80880  
gtgtccatct gggcttatgt gcagtgtgtt gtcttaaaac acagcaattt agatagaaact 80940  
accttttctt cttggtggga gtctgcagcc aacaggacca gaaccagctt ggcttcttg 81000  
gcaccatact ttgggaaaac cacccttaaa tgcaaaccaa agcacaggcc aagagaacgg 81060  
acctctgtgg gttgattttt tccatgcgtt tgattgcgtg catgtgtagg aggtgaagcc 81120  
gggtgtggta cgggcctgtg gaggtgagct ggtcagtggt gctccgtgtc tctcggttgt 81180  
gggcttttgt gatgggctgc agtcggaatc tcccagtgcc cagcaccccc tgaagccccc 81240  
ggtgcgacgc cttgtggttc cacagcccc tccacaatca ttcctgtgtc gtctagcctt 81300  
ttcttttgc tcccttgttt tctaggccgc cgggtgttaac accacggaca aagagattga 81360  
ggttctctat attcggaaatg taacttttga ggacgctggg gaataatcgt gcttgccggg 81420  
taattctatt gggatatcct ttcaactctgc atggttgaca gttctgccag gtatatactg 81480  
ttcttttctt ctgggttttt ttcccttttc ttggctgact gctattaaaa ttaacacagc 81540  
ttctgttate agaaatggcc ccttttatcg ttgcataaag atataaaaaa tggtaaaaaat 81600  
gatccctcag ggataagaaa actgccttgg aaattcacac acagtgaat cccacactca 81660  
catttatgat caagggaat ttaccctta aaacctgaag ggaatcata ttttagtgga 81720  
gtcattgagc caatgtataa attagcccat ccccttttct cttagggaac aagttgccat 81780  
tactttggta aaattcaaag taatttatc tcatttcaaa ttccattttg ctaaaatcct 81840  
gtatgtgttt ttattgcttt catccactt tgtattttta acgagatgta aatagaggga 81900  
tgtgtatgga ggagcctggg gagcggcacc tctgaatgtc agatgcacag aagcagtggt 81960  
ttgcctacct tggggatcgg tggcttgcg catgttgca taggatggac tttcggtttg 82020  
ctttcattgc aaagcatgct cctgccatct tgggcttgat gttatttctg cctcacagag 82080  
aaataaacat cattgcagcc ctgttgccta aacattgctg ctgtctgaat ctttaaccga 82140  
catctctatt ctagtgaac tttcttgaaa ttaaacactg tccctcttga tgcattctgc 82200  
tctttgtcat ttcccttgtg aaactgcaga gactgtggtt tgctagctta tgatgttcca 82260  
ctccagttat taattccttg ttttttagag acagtgccta cctgcatgct tattttacat 82320  
ctagtaaaaa taaaatagat cgtttcattt ttgtgctgtt gctgctgaga gttttgacta 82380  
tcttgcaagt atttttctga ttaaaatgta taagctttca ataataccat tgcattccgt 82440  
tttcttttg ttgcgaatct gctctgtgaa tatttgcttt gaaacaaaga gatgtctctt 82500



atgttgaagc ttgcttttat ttgcagtact gcattctgtg gtgcctaact ggcacttctt 82560  
aaccagtttg cctgacagtg ctagcactta actaagaatg cagtttgaga aaaacactat 82620  
ttggaaatac actgcttgta gatggatcat cgaggactaa gaagaagtca gacattggaa 82680  
gttgatataa aaatgtgcta aattaagtaa ttatatgtat actcacacat aataccttta 82740  
tgttttttct ttaagagaaa agctgtagtg acataacaat ataaccggat atgtataaac 82800  
ttaaagggtt attaaagaat attataatct ttatgtatta tggatctaata ggttctatat 82860  
tataagcaat tcaatctgtg tatttaatgc attggtttgt ttatggacta gatggtatta 82920  
aggaattcac caaaactttt tcagaccagc ctactagatg aacatcagtt tcatatggaa 82980  
ttgtgttcac cggggttaaa ttatcctgtg gagtcttctt ttggaagagc ctacccatgt 83040  
aagactgaag cattgtcact gtctccttag aaacaaaagt gggcatcgtt gatatttcag 83100  
aattttttat ttggtttgca ttcacagacg atcatgaaag ataactcttt cattgtgggt 83160  
acagtgtggt gtctccact gaaatgtcta acaaaatgtg gcctcatagc ctgccctgtg 83220  
caactgggtg tcaaccactc actggattgc aggtgccac tgaggctagt gacagtact 83280  
acctgggtcc tgggtgtcaa atgatggacc cctggttatt cattttcatt tgggagttt 83340  
tgggaagccc acctgacctt gagaatggtc gtgcgctttt ggttcttttg gttgtgctat 83400  
gatgcgtcag tctggtgtgc taactctatg gcctgcttat ctgttctctc tctgtgctat 83460  
tgcaatctag cgctggaag agaaaaggag attacagctt cccagacta cctggagata 83520  
gccatttact gcataggggt cttcttaatc gcctgtatgg tggtaacagt catcctgtgc 83580  
cgaatgaaga acacgacc aaagccagac ttcagcagcc agccggctgt gcacaagctg 83640  
accaaagcga tcccctgcg gagacaggtg acagaaagta gataaagagt ttaaagaaat 83700  
ttactcctcc cccatgacc agccagcttg tggatcttgt cctctgcttt gatgccatcg 83760  
acttctgtga gcttccatgt gcgagtgtt ctggtgtgat gcttggcgggt caccagtta 83820  
gtgtttggag cttggagagt ctagtcatgg tggcgttgct tggatcaatg ggggtccagt 83880  
ccaagggcaa gaaaggtcaa tactgtcaga atcagacaac taatcagcag gactggaaat 83940  
aactggaggc aaatccccct gtgtgtgtt gatcagactc aagtacagcg gtctcttcga 84000  
agctttagcc acattcgtgt cctgtgatct aatacctttt ttaagataag catgaacatt 84060  
cgcttgggac ttatgccact agtacgaaag agactctaag ttctctgact tattttttaa 84120  
agtcaagatc agtatcttat gccctggggg tgcacttgaa ctgtttgatt taaactgttg 84180  
cacaataact ttctacacag aatttttaggc ttaacctctt tgcaatttac aatagaattg 84240  
tatgcatcta ttatgtctca ttgttagtag ttcacagggt tggctgtgga tttattagta 84300  
gaatatttgt atggaaccag caacagattg tttttaacca ccaacttgggt ctttgggtgt 84360  
tgctttttgc ttgtgtgtgc ctctgattg gtttaatttt gctttggggg agatggggca 84420  
agatggagcc tctggtgtaa accaaagccc tgcataggta ggtgggacag gaaatgcctc 84480  
agctcttttc tgcttattca cagagatgga agcgggaaggc agatgtatag gcagaacgtt 84540  
tacaaaagca tttgaaactt ggttctgata aaggtttctt ttgaaatagc aagtaaaaca 84600  
gcaaactcat ttgctctatt tcagtgtgta ttttagtaaa atgtacgggg tgcttgtaaa 84660  
aatttcagat tcttttgtct cagccccaga gattcttggt cagtcactctt ggatagggcc 84720  
aggaatctgc attttacaca agccctatgg tgattttaga atgcactttg agaaactcca 84780  
ggttaattcc aggcattgcct ctcccggaac ttcaggtagg aatgacattt tctggacaag 84840  
gcattaggaa ggattaggaa ccagttggtc agcagtggtt ttggaatggg tctggttggt 84900  
cacaaccag cttcaaactc ctggttgaat gggctcttgt taacttctct aaagccatgt 84960  
ttcaagcagg tctttctttg tggagacgga ggatagaatt taaagtgtgt gtcaagcgtg 85020  
ggcgaatgac caaattgtgt taacagcatg gaaaagaggg gcctgttggg tcacgtctgc 85080  
caccaagaat gctgtgtgca ttttgagtga catgattatc tttcttgggg ccaggaaagc 85140

aaagatgagg ccagttggcc aaccagtttc tagaagagtc cagtcctgag ataactctta 85200  
catggtttct attatttttt ttctaataagg gaaaaatggt aacttctgga ggcaacttgt 85260  
aatttggcat agctaggcca ctgcccccta attatctcat catctttttt tctgcaactg 85320  
ttaaaatgct tttcttttta cttaatatag aagggttaaga tgcctttaa atccccctga 85380  
ctcagccaca gtcacgtgt tttctttccc cagtgccagc tggcttttct tcaactgtcca 85440  
tctaagaata cagtttgaga aaaatagtat ttggaatat actgcttggt gatggatcct 85500  
tgaggactaa gaagagggca gacattggaa gttgacataa gaatgttcta aattaagtaa 85560  
ttatatgtat actcacatgc aataccattt atattttttt ttttaagagaa ttcagcctgg 85620  
ccgggctggt tggctcacgc ctgtaatccc agcactttgg gaggtgagg cgcggtggatc 85680  
accgaggtc agggattcga gaccatccag cctgactaac atgttgaaac ctgctctcta 85740  
ctaaaagtac aaaaattagc tgggtgtggt ggtgcatgcc tgtagtccca gctgcttggg 85800  
aggctgaggc aggagaatca cttgaacctg ggaggtggag gttgcaatga gccaagatca 85860  
caccattgctg ctccagcctg ggcaacaaga gtaaaactcc gtctttaaaa aaaaagagag 85920  
agaattcagc ctaagttggt cttttttcct ctcttccctg tgttaccaga gggaacatca 85980  
gagttccttc ctctttttct tccctccttc ctttatttat tcatcataat ttactaagtg 86040  
cggtgtataa atcaggttac atgtaagaca cagcctgtca cattcaccag tggttccaag 86100  
gttatttgat ggtaaatgcc tgtaatccta gctccacagg aggctgaagc gggaggatcc 86160  
tttgaaacca ggagttcaag accagcctga ccaacacagc gagactccaa ctcaaaaaac 86220  
aaaacaaaac aaaacaaaac aaaaaccaa agtgggaaaa aaagaaaaat gtaattggct 86280  
tgtgttcagt agggccgagg agtataacag aagcagagga aagggggcaa ataccagttc 86340  
cctggaaaag tacatctctg cgagattaat ttatttgggg ggaatgttga cacacctcag 86400  
ctccttctac atgtccaagt ggggtacatt attggatcct cacaagaat gtttcatcag 86460  
tacgcatggc ccctttggta gagaaagaga tgcttatcgg gtatctggat aaaagagggt 86520  
tattggactg gagctggaat gaaaagcccc agaaaggcct gcagatacgt tgatgacaga 86580  
gcaaatacca cagggatgcc aagcatgcct ttacctgagc ctctaactcag atgtgtcaag 86640  
gatgggtgt ttctaggcat ttatgaggcc actttttatt ctgtgttggc cagtctcctc 86700  
taggacacag ggatcactca gtgtctccat ggccttgact ctttccctct ccaacacca 86760  
tacacacaca gcgtctcact caggtccctc agtccatcct tgttctcttt tcaggacaag 86820  
aaaagttggg ttttcgttcc tcctgtgagt ttttccctct tggcatttat taatttgcac 86880  
tagacttact ggtgtaacac agacgtttca gtttatgtta tttttttgag caaaaatatt 86940  
tttttccagt accaaagaag aaattccttg tggaagaagg agaagcaact tttgggtggt gggaggcaga 87060  
gagactttgt atgcacatg ttgaagaagg agaaagcaact tttgggtggt gggaggcaga 87060  
tggcagggtg catctccctg tgtcctttga tggaggctca tgtcacatc agtgtcaggg 87120  
cttgggcacc gtgccagaca ctgctcacc actccactc ctttgggtgcc cagcgagtta 87180  
aatgagacca acaacagcca gccagagag gggcatcttt gtgagcgtgt tggttctggt 87240  
acaggatgct tggacagcca gtgaccagt tgaagcagcc tttgtgagtt aaagggggca 87300  
gcattacttt ctgtgttttc cacacatcaa ttgggtggtg ggggaagggtg taggggtggg 87360  
tggaggatgg agtgcagagg aaactgagga tgcctgttta ggagacgtgc ggtgttgctg 87420  
ggtttgctga atcagtttta catcgagcac atcagtttct ttctctgggg cttgaagctt 87480  
ccatagggtg ggtatggagat ttaactgtct tatggttggc tccgtccaga taaattcatc 87540  
tcctgtgcag cttacaccct ctctcactgc cgtcagcatg gtacaagagg ctgcagggtg 87600  
gttttttttt tgtttttttc agactttagt ttcaccttct cagctgctga tataggtagg 87660  
ctgaaaacca gagaaaaatc aagagcagac tgggtgccgt ggctcatgcc tgtaatccca 87720  
gcactttggg agaccaagac aggcatatca cctgcagta ggagttctag accagcctgg 87780

ccaacatata gtgaaacccc atctccacta aaaaatacaa aaattagctg ggtgtggtga 87840  
tgcattgcctg tagtctcagc tacttgaggaa actaaggcag gagaatcact agaaccacagg 87900  
aggtagaggt tgcagtgcgc tgagatcgcg ccactgcact ccagccttgg tgacagagtg 87960  
atactccgtc tcacacaaat aaaaataaaat aaaaataaaat aaatcaagggt 88020  
cagtgaaggc taccttttgt agcaatactt ttgaggcaaa tggcatattc ctggggacgt 88080  
taggaatagg accaagatga agggggagga gcggagcggg tgcctcgggg gaggaatgtg 88140  
tgactcagta gccagttctc aggtccagtg ttagtgatcc tcaaacatat gccaaattcc 88200  
gggaaggggg atggaatgtt tactcccaga agctcgttta ctgcctggca gctgaacatc 88260  
atgatctggg aatattctct gtatttttgt caatcaggtg gtctaaacct taccggctcc 88320  
agaaaacatt tgggtaatta gagtgggtcac ggatgactta actggaatct gccctttcat 88380  
gtgggcacct catcctccct gccctatttt cgctgctccc tttctcctc tctcagcctc 88440  
caaaggacat gacagtttgc ccaagatctg acctggacct tggctgatgc gatctctcga 88500  
gcagagccag cgcattctgg gctggtgcgt catggctctg ataggtttac tcacagagtc 88560  
ccagggaaag gcctgcggga ggcagagact cgctatggga gaaaagtgcg tgtctgatga 88620  
actgccttgc ctaattacct aaatttttgt atggaggaaat taaaaatgca acttcagaag 88680  
cctttgaagg tttatctcag gcaccagct tgcggtggtg aaagcatttt gtttggccat 88740  
aggggagtg tgggcaaggc ttatattaga gcagaagtat gttaatgcca gcctcgtgtt 88800  
cttgtggggg aaggtggttt gcagcctaag agtcacaggg cctgttttggc aggctgtggt 88860  
ccaagtgtgt ttgtcagtc tggggagtaa acacacaaat attaatctgt ctcttctccc 88920  
tggaacatct ttgcttctgc ttgctctgtt ctctgagaaa tccccctag atggtaaatt 88980  
taattcagta taaagagata acactgttag accgggcgca gtggcccaca cctgtaattc 89040  
cagcactttg ggaggccgac gtagggtgat cacctgaggt caggagtctg agaccagcct 89100  
gaccagcgtg atgaaaccat gtgtctacta aaaaatacaa attagctggg cgtggtggtg 89160  
catgcctgta atcccagcta cttgggaggc tgaggcagga gaatcacttg aaccgggtag 89220  
gcgggggttg cagtgcagca agatcgtgcc tggataatga gagtgaact ctgtctcaaa 89280  
ccaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaagaaaca gataacactg tttcttggtg 89340  
gccctttaaa aagaaggaa aaaaaaaaaa cacttctca cttaattctc catatgtact 89400  
atggaaatgt acgaaaagca catttactta aaagcttgac ttatggcaca tgctggagag 89460  
attccggaaa gtgaggaaat ggaattggag tctgtgaaa tacatgctta aaaaaaaatg 89520  
cctgccaa ga ttcgggagtg ggaacacagt ttactagagt gtctgtttg attgtttata 89580  
agtaactcac ttactactaa caagagaata tgtaaaatt ggttagaat gaaactctgg 89640  
aattgaagt ttatagtagg aattgaagaa taaggagat tatgattttg tgcaaaagaa 89700  
aagagaattt aatagtgc taagaagtaga aggatttcag agatgagcag tgggagttat 89760  
ttgaggttcc tgattcagag gaaagatgcc cagtaaaaca tggagtccca caggggaatg 89820  
gcctgccag gaccgggcca agccccaac acaggctcgc tcttgagtg gaagggaatg 89880  
aagagaaagc cagccgtatt ttatagcccc agaggggatt ttaaaagcat agtaaaatg 89940  
catggaggta aaattaagat atacctcagt agacagagca atcaaattct atagtttctt 90000  
agactttgca cgttttctta cccttttccc ccgtttcgtg ttcttataaa agtattttcc 90060  
aggtttgtac atttaactct aatctccgta ctctcatcga acaaaattcc cgtaagtcat 90120  
ccttcttgta gacctcattt ttaaaattct aataataatg acaataaagt tgataaaggc 90180  
tttcttattt atttattttt aggccttcca tttgaaaagc tgtcacatga aaatcttctc 90240  
gagacagctt gtttggggga tgggtgtagt acatgtgaac ttttggcagg ggtttgtgga 90300  
tgagatttcc tttgggttca tgggtgagcc atagagggtt gaacttcaga ctgaatgtta 90360  
aatttttctc ttctgaggtg acccctaagc catatttgct attaggacct tcttactgtc 90420

cagttttcct cctgccctga gatgattccc tgactcctgg attcttcac tcctgettac 90480  
tagaacccca gcccatcctt ggcagtgcag agagggcctc atctagcaaa tcagacatgc 90540  
ccactaaggc atatcttctg cagtcagcct ttaatgtcac tgggttatct tcctgggtgc 90600  
acacagtttg acagtacaat cgtcgtttgg tatgcgttgg ggattgggtc taacaacccc 90660  
gaatatacca aaatctgtgg atgcccaga cctttattta aaatgggtga gtatttgcac 90720  
atgaactgtg tacatcctct catatactta gtcatttcta gtgataacct taataactaa 90780  
cgcgtttgta atgctatgta aatagttgtt atactgtatt gttttttatt tgtattttaa 90840  
aattgttgta ttgttatttt ttatttaatta gctttcaaat atttttgac tgtgattggg 90900  
tgaaaccatg aatgcggaac ccacagatat ggaggactga ctgtatctta cacacagaac 90960  
cacccctaggc tccaaacgct ccaagttacc cagagagaag tgtctttgtc tgttctctca 91020  
gatctgggca gcaaatgatt ctaaaggac taagagaaaa tattgcagtg ttggtagcag 91080  
acattaactg agctcttagt gccaggccta gcataagca ctctcatcag ttttttttcc 91140  
ctcattttat catcacatta atgctgtgca gttggacctg ttctctgtctc ctcttttctt 91200  
ttttgagatg gagtcttgcct ctgtcgccca gactgcagtg cagtggcacc atctcggtc 91260  
accgcaacct ctgcctccca ggttcaagca attctctctg ctccagcctc ccagtagctg 91320  
gggttacagg cactcaccac catgcccggc taacttttct atcttttagta gagacaggg 91380  
ttcaccatgt tggtcaggct ggtctcgaac tctgacctc agaagatctg cccaccttgg 91440  
cttcccaaag tgctaggatt acaggtgtga gccactctgc ctggccctct tcttgttttt 91500  
aacagatgag gaaaccagg tctagaaagg ttaagtgatt tcccaaagct cacacagtga 91560  
gtgagtgtc aaactgggac agggacctg acaatctgac cgcacagtcc catgtttattg 91620  
cagttggta ggatgcagcc tgcctaattgc ggggcctcat gttgtgaatg atgagcacag 91680  
gaagggcagc aacgggattg gctgttgccc acatcgaagg atgcagagat gccacaaaac 91740  
ctagcctggt agcagaagga agggccgaaa gcagtgatct tgtaagtttt cactcatttt 91800  
agaagtcagc atatttcaag catatgcctc tctgttttct tccgttgggt catgcctcag 91860  
ctcagatcct tattattcta aaaaatattt ttgttaaata aagtacttct tctagaacat 91920  
aaaagaatta catcacatg gtcataaaat ccaaatggtc tagaaagttc tgaaataaaa 91980  
tgtattttct accccctctc tcaactccta atctctctgc ccacagggtga tcaactgctaa 92040  
gtctcttata tatccttcca gaaacgttta agtgcccttg ttctcacacc tgcgtgtggg 92100  
acagctgcct tccccacac ctattctgtg agcctcgtg atgagagcgg tgattttcag 92160  
ggaggaggca cagaagccca gccatgcctc tgcctctgct ggggtgtaac gtcattccag 92220  
actgcggtc caagcaattg cttaatcggg tcccactcct ctattgattg cagcttcccta 92280  
tgcaccccat agtggaaatc tggaaactgg tatccagtga tgaggggcta cgctgcaggc 92340  
catgcagaga gtgttcttgc tgtacaacct gccagacct ggccatttgc ggaagtcgtc 92400  
ccattgctag gcctcttttt tttttttttt ttttgagacg gagtcttgcct ctgttgccca 92460  
ggctggagtg ctgtgggtga atctcagctc actgcaacct ctgcctcctg ggtttaagcg 92520  
attctcctgc ctcagcctcc caagtagctg ggattacagg cgctaccac cacaaccgac 92580  
tcattttttt tatttttagt agagataggg tttcaccatg ttggccaggc tggctctaaa 92640  
ctctgacct caagtgatct gccacttcc tctcccaaa gtgctgagat tacggcgtga 92700  
gccaccgcgc ctggccggcc ggttcttact agtttggtg gagcttcttg cccatgatata 92760  
cctcaagcat aaggtccccc tgaatgaggt ggtgattttt gcctgttcat ggggaagaac 92820  
tttcagaaga cttctttagt cttgaaaaca cctgcgtact taagcatcca cagcacacgg 92880  
ccctgatgca gaatgaatta ggaggacaga aagatttggg gaagcatcat tggccgttaa 92940  
acccgctcct gaatctttct gagctctgta ggtggagctt gagatgttcc tgtggaccac 93000  
tgcaaacctg aagctctgat gttctctgaa agttcctggc ttctgatgtg tccgcagac 93060

gaggtttagct cactacagtg aggttgagata ccacatggcg gggactttaa agttgtctgt 93120  
ttcatccagg gtggggctta tgcctagtct gtgacctcag tggggagcag gacggattcc 93180  
ccaggagcac ccacatttac cttctcgtct tttcccgtct gcttctgcca tttgcttgtg 93240  
caacccagac acttgggtgt gaggatctca gctccacaat taatgattct ttagttcccg 93300  
cttttaaaac attttgacca tacaatgaat aaatgttgct cactactatct gcataatgaa 93360  
gttttaggaat aactgcccc tgccaaaaga ttgaatggaa ggctcaggaa gtgctcatgt 93420  
acgttttaaa agataatagg aattctatgt gaaaaatggc ccacttcttt attttaatac 93480  
tgaaaacaac ttcctaattc taaaatgatt ttcttcccct aatctattct tgggcatctt 93540  
cttgaatttc cagcctgctt tgagggaagt ctgggtttac aaaggcgaga ttcaaagctt 93600  
ttcaaacagg acaggtcctc tggttccctg tgagaagagc ccaggaccca cctgtgtaa 93660  
gttcatccca cctaaatttg ttcactctga ctcagtcctt gccagtgtga ttgaaggcgt 93720  
ttgtaagcac atccaggagt actatccacc tgggcagtca cgcaggagac agagcccagg 93780  
gtgggctagt tgcctgctg gagatggatc gtggttaact tcacattctt gttctcttgg 93840  
gccaaagtct tgttcatggt ttagaataag acagtgttca agcagcctgt ggtcagacta 93900  
agattgcta gtcactctca aaagtggcct tccagtgtgc tctgtgtgag tctttttttt 93960  
tccatagaaa ccagccaaag gacagtgata tatttaagaa ataatcattt tatcagacac 94020  
actgaaatgg atcaggataa acaagaaagt aactcggtag agccctgtgt actgccagg 94080  
gggagaggag ttctcttgtg tggtttatgg aaaagggtga ttttctttcc attgatgctt 94140  
catcccacgt gtttagtgca ctggtttctg aaaccgaaga caaggagcag cccatttcca 94200  
ctgaatagc tggccatcaa taagtttcca gaaggactgg ggagaaacaa agaatggccc 94260  
ccaatgctgg ggtctggggt tattttgagt taaagggact cggagctact gaatgtcttc 94320  
cacattcaag tcttagaact ctttcttga gatattccac tttacatttc caaagacaga 94380  
ggaaatatgg tagagccaat ttctaaaag ttttctaga atttcataag cacagcattg 94440  
atccatgac cgggtgtgtc gagaggggat ccattatcca gggctccagt acagggtcag 94500  
gtacaacat aaaggcacta atgaagccag agaggactgt ctgcatgtcc tcaagtgtac 94560  
ctctggagga attaggacag aaagaaaatt tacatttgta tcagatggta tagaaaaatt 94620  
tcatagaaaa acctgaacat aggaacataa aatttgatg aaatctggta ctgcatggac 94680  
tggagggcag aggagttaga ttccagtgg tttctaattt ggtttctgac ttctgccagc 94740  
ccccaaccca ttcttttcta agattcgata ctctggctgg gctctggctg acttccagcc 94800  
ttctcagatg gagccaggat tacatctgtg tctttgcatt ttgtatccag gtttcggctg 94860  
agtccagtc ctccatgaac tccaacaccc cgctggtag gataacaaca cgcctctctt 94920  
caacggcaga caccctcatg ctggcagggg tctccagata tgaacttcca gaggacccaa 94980  
aatgggagtt tccaagagat aagtgtgtac ttctcttggc catgtcccag gatggagact 95040  
cagctataaa tggggatatt ggattaacat tttcttttta tgacccttag ccacaaaggt 95100  
cttggtgtga tgatgtcagc aggagtaaga ttgtatttct aaataaccaa ctctggaaa 95160  
agaaaaaaat ggatttaaaa aaaaaataa ctcttgaaa gcagagctac ttgcccctgg 95220  
ctggtcccca aagaagatgg catctggtta tcatttttta agtgtctggg caattcagac 95280  
tccgtcaaat ggaataaaag tagaattatc caatttataa aacagatctg acattctagc 95340  
ttttggttac tagaacaaga ctgttctctg ttcacttctg tggagaaatt agatgcagaa 95400  
tataaatggc cttaaggacc gctaccagc gttgctgttc tcattgggtta ttaatgtcat 95460  
attgggctga aaagcttcaa atatgttacc tgacatctaa tttctgtgat ccataatatt 95520  
ttcttgttg gatgatacag aggtgtgcca atcagatgtt tagtcaaaat atggccacct 95580  
gggtggtgtt ggggctacgt atctcttggc ctgccttgaa ctccacgtac tggagctccg 95640  
ttgggctgca tttgaatcct ggctttgcca gacagtggct gggcaacctc ggggtgaggca 95700

cctgattctc tgaattcat tctcataaaa tgagggtggt gggtcagacc tcccaggact 95760  
gagcagagtt cttggcctgt gcgagttttc ctttcatttc ctttcacgtg gtggtaacct 95820  
gggagctctg aactgcaaac ctccagcagga tcatcgtgtg gggcatggag tcagtgggca 95880  
gaattttgagc tcctagccct cgtcctctag gcagggaccg acccctagat cctccttatg 95940  
aaaggaagtg cagtgggtcat tgtagggctg tccactcact tctgggggtac tttttgtcgt 96000  
cacagcttga gagtacggga aggtggaaat gctgactact tctgcatcac atacactgga 96060  
ataagctctt gacttgctta taagcagcta cctgttttgc cttgacattt tcagtagctc 96120  
ctcagattat atacacttct catgtgtacc tatacacatt tggaaatgca aagataagct 96180  
cttccagaga ctgatctgat gagctctatt tgggaaggag aggtagctta tgtggctggc 96240  
actcttgatt ttgattcacg tgatgtcaca tcagttttgt ttcccaagtg ccaatttaga 96300  
gatgtgtacc gttagctagg actgaataat tgtatggata ttatttgggt agagtgttaa 96360  
tggaagtaat ttccagttga tttgtatact gtagtgaaaa gaccactcac tcattcactt 96420  
attcattcac tcaaggcatg ttaattggac atttactggg ggggcaccag agaaaacaca 96480  
aagaatggtt tctttacctg taggatgtgg agaaatggat gtttcttgtg aactccgcc 96540  
gccctagttt gtgtgtgatt atatacacag ataggttcat gtgcacattc ctatatatat 96600  
aactgaactg gggagttgtg atcatatatt aagaaattgc agctttcggg tttagttcat 96660  
agtttttgcc acctgtgaca ccacagtcaa cagtggaggt ctgtatgtgc ccaactgtta 96720  
cctcccaccc ggggtaccct gagtgtggaa aatctgagtg cttaacattt ccaaacagtg 96780  
tttagcgcaa acgtaggtgg aacagatttc tatacaaaaga aaggattgtt atgctttag tagcaaggcg 96840  
attagatcgg aggcagaagt tatacaaaaga aaggattgtt atgctttag tagcaaggcg 96900  
gtgggacata aattagccat ttttccaatg caaatattta ttttctgcca agatgttaaa 96960  
tttaattttc gttctgggta gaaacaaaat gacctcagca tagcacatgc tgcccttagt 97020  
ctttatgctg cacttttgca aactattgtg tacttacctt aaatactgtt tactaatggc 97080  
agctccatgc tttgctgtgt tatgcttaag ttagaaagag ccgtattcat aagtattcca 97140  
aagacttttg cgttttgttg gtttctggaa tgcacaagga caatatatgg ctattcgtcc 97200  
gatgtgcata gacctgttaa tcttagaaat ttaatttgtg gtgttcactt tggattttct 97260  
tcattgttaa ttttatgtag tcataaggac ttttaaactt atgtcaaaaa aaaagtcacc 97320  
aatttttttag aattttcttt ttagtaaaaa attagagatt ccttgaatg cttttaagag 97380  
gcataacctg taacttgga aggaatgtga ccataaaatc cattgggtatt tgaataataa 97440  
ttttaagcc accattttac agggacaaaa aaataagaac agtcttaacg ttttttcttt 97500  
gagccattct aaattacaaa tattttaattg gctcaagatc aaaagctcct ctctggcact 97560  
taggaaagct gaccaccgca ctagcaagga taccttccct aaagaaaata aaccgagaat 97620  
accaatgtga aatttaatag ccgttccacc agtaattgac attctctaaa acgtcactag 97680  
gaaaatactc aggcgcgtgt gtaccctaag tctcattagt tccatatgat aagcactcca 97740  
tgcttttagta agccgctgaa agatttttat atttagttct ggaatttccc tactacacc 97800  
ccatcaccag atgctatgtg ctaatccctt atttacacat ttaggctgac actgggcaag 97860  
cccctgggag aaggttgctt tgggcaagtg gtcatggcg aagcagtggt aattgacaaa 97920  
gacaagccca aggaggcggt caccgtggcc gtgaagatgt tgaagggtga gcggggaggc 97980  
gggaggctcg gggaggggct gggggagag tcttatcaag aaagtccctt ttgtggcatg 98040  
tgaactctat catggcacgg ggtcagagag cacatagttg acctagggtt tgagaagttt 98100  
tcggtataaa tcagcatctc ggacagacta tttatcttga gctgtgtgta ctataaaga 98160  
aaagccagtt ttgttagaaa gcggtagcct cctacataga gttattcttt gactccttct 98220  
tcgtgaccac aattcttcat tctctctgta tttttatgtg cttgaaatt atcaactcac 98280  
atataattga atttattagc taggagttgg tgtgttagat ttgggactta aaccttaact 98340

ttacaagtac aagaaaattt gtgtttttgg agggaacgaa gagacgtaag ggagcagaaa 98400  
gcctttctctt ttgcgtgagg aacaaagcag aaatgacact ggtctgggag agtcacttag 98460  
aagctgagaa ggagtgaaca ggatcagggc tgggtgcagag cctcctggga cacataaaca 98520  
attaccctga gatgtaaatt tcgtgttgtg tttgtgggac tgtgaacact tctacgttaa 98580  
ccttccaacc ctgcttcatt cccatgtcca aagaacttaa agaactttta accattaact 98640  
tattcgtcct gcagttattt tttatgagaa gagttatagg gaactgtcac attataaatc 98700  
ctcttgtagg gatctcggaa agaagatccc atgccgagtg tttcccacgt ttccaggcag 98760  
agaggcccat ccttggggata tgggtcctggg catgtcgcag gcgctctgga gttaggcttt 98820  
gtctttcttt tgtgggttct catgggatag tcatcacatc cctcccaagg ggaagttagca 98880  
ggctggactt tgtcaacaag atgtgcattt tgttttttgg gtttttttaa aggctgttta 98940  
tctgagtgcac tcccaaggaa aactagagtg ctttgagatg tccccacct tggagcctga 99000  
tgccgggggag gaacactgtg ctgtcttgcc ccagggtgtca tggcaccact gactgaggca 99060  
gccccctggct gcgtaccagg gccagggtgtg gggaggaccc aggccttctca tctcttttgg 99120  
cggaacttct ggttttgcta atggagctca gagttacatg ggatattgca aaaagggagg 99180  
tctgggagtt ctctttctct tgtgatgcc aggcctggcag ccttccctgt aaggacacag 99240  
aagatatatta gtccccaagc cattgtggcg tgtcctttct tacagccac ggctgtgtct 99300  
ccctccctcc tcatggcccg tggctccctc ctccacatac atcagtgtaa attttgcaca 99360  
cacagtcact tgtattgatc ttctttttgt gaagctaaaa aactgttttg aacatggtg 99420  
cttatccatc cccatatttc attttttttt taaaggaaac ccagattttt ccatactgaa 99480  
ttagcttgag gtggagggca catgggaaag tcttgccact taggagaatc taagagaagc 99540  
taactgcgag cccgcgtatg tggaacctgt gccattcttg cttgaaatta cagagcggaa 99600  
gtttatgtaa cttttcttag gatgggaact gcagtgccct ctgagaagcc actagaagtc 99660  
gcagcccttt acctgctcag aatgcacatg cacacacgtt tatggccctg tttatgggga 99720  
accgtctgaa cccacctcgg aacgctctaa gggcctcgag gggctgggtt aagaatgctt 99780  
ggctggggagc aagtctgtag tgatttgaaa tggccctacc ctcggtctcc tcgctggttt 99840  
caggcaccat gaagtttggg gtggttttct gagacgcctt agatatggca gaggatgaga 99900  
ttatctcatg gtctaggaaa gaattggcat tagtgtcaga agccctgtct ctgctctga 99960  
ctcttggccc cattggcccc ccagtgcgtt ctttgacaca gagtgggca gttccctgtg 100020  
taggcctttg tcccttcctc gataaaatga gggagatgat ttggaaaatc ttttctgatt 100080  
ctgaaattca atttcatgct gtttcaacta agtctttggc aactaacagt agctgcccat 100140  
gagtttagag aaatgaactg atttgtgaat atgcctactg ttcatagatg atgccacaga 100200  
gaaagacctt tctgatctgg tgtcagagat ggagatgatg aagatgattg ggaacacaa 100260  
gaatatcata aatcttcttg gagcctgcac acaggatggt gagtaggagg aaaaactgca 100320  
ttcgcccaaa tactctgcag tttgattgaa tcattttaga aatggctggg cttccagatc 100380  
ctgctccag agcacctgt gtgcattgtt aaagtcttt ttaaaatccc cattggaaga 100440  
tgttcttagc catgaacaca aagaagggtc tgtgccgta cctgggggac agtggaagg 100500  
agggtgcagg tgactttgga tttgagggcc tagaggggcgc tgcgtgttct aggtcataac 100560  
ctggaggggg ttttgaaaaa ggcagcctcc ttatgtttt gttttgtaag tgctaagaga 100620  
gatttgcag aataagatcc tatgttttg ttgagaagt cttcccttaa aacagggatt 100680  
gaagaatcca catcttgctg tgggtcacag atggtgagc tcccaagaat agcttaaaag 100740  
aggagaaagc ggtatgaagg aatacgttat tttccctggg ggagagagac cctggcttct 100800  
tccattgaat gtttactggc actttgaaat caatttgcta agtaattagt aaacttgaaa 100860  
acgcctatct ttgacttagc aatttctctt gtaggcttat atagtaattg gtgaactttt 100920  
tctgtaaagg gaggtcgtag atattttaga cttttgtggg ccgtatggctc tttgtcgcaa 100980

cttctcgtgt ctgccatagt agtgagaaa agtgctaga agtacagaaa tgaatggacc 101040  
tggtctgcatg ccaataaaat ttaattacc aaacaggcgg taggcaggat ttggcttgca 101100  
ggctgtagtc tgccaacccc gagcctatac catggagaaa ttattgcaca cgtgtgtaag 101160  
ggaacatgta cagagatggt cattgcctac tgtttgttat ggctgaaacc tggaagcaaa 101220  
tgcctatgca tataagggaa tggataaata aagtgtggtg tgtttatacg atacagtata 101280  
tgcagctgtg aaaaggaatg atctggtttt gttttataa gcccaacagg ttccaaaagg 101340  
ataatgtatg ggtaaaaaat gttgcaaaga tctaagagct ttattattca tttatgtgat 101400  
taaaaaatat atattactta ttgaatagtt aaaatgaacc aaaaggatag agtggaggga 101460  
tccattgctt tccaagaggc cgcagggtgac agcatgagag tgacagggaa gagcacgtca 101520  
actgtgtctc tgtgcctttt gaggtctatca tgaccaaggg cttattttatc attttggaga 101580  
gattataatc atatttttat ggtgtctttt ctgtatgtta aaactttttc tttttcttc 101640  
ttcttttttt tttttttttt ttgagacaaa gtctcgctct gttgcctagg ctgcagtga 101700  
gtggtgtgat ctgcgctcac tacagcctcc acctcctggg ttcaagcgat tctcctgtct 101760  
cagcctctca agtagctggg actatagggt tgtgtcacca tgcccagcta atttttgtat 101820  
ttttagtaga gacgaggttt cgctatgctg gccaggctgg tcttgaactc ctggcctcat 101880  
gtgatccacc tgctcgccc tctgtaaggg ctgggattac agatatgagg caccacgccc 101940  
agccgctgta tgttaaactt taaaaaaaaa aaaaaaagca tgggttgtaa taactaaaaa 102000  
tgttttgctg aattgcccaa ggggagacc ttgattctct ctttagggag cttctcttct 102060  
tcctcaacag ggctctctca tgtcatagtt gagtatgct ctaaaggcaa cctccgagaa 102120  
tacctccgag cccggaggcc acccgggatg gagtactcct atgacattaa cgtgttctc 102180  
gaggagcaga tgaccttcaa ggacttgggt tcatgcacct accagctggc cagaggcatg 102240  
gagtacttgg cttcccaaaa agtgagtctt tcacattcta cttggctggg tggatccaa 102300  
ctaaaaatgt ctttaaagaa aacaggcaat ttggacatgc tcatttgcta gatcaagccc 102360  
tcgcatgtct tgtacaacct ggaaaatatt tattgcgtta tcccatttg agtttaatga 102420  
actgtttaaa accaaagcag cctcataaac ctatagcacc gctgcagaga tgagcagaaa 102480  
agatacctct tctttgagac aggaccatgt gtgatttccc tcggaattca gctctccagg 102540  
tgggaaatgg atggttttaa aggcccccct taattcggat gattttctt cttctctttt 102600  
ttttttctt aagcttcatt tattttgtgg ttactgagtt tttgaacata gactttaggt 102660  
gtttagtgtt ttgggtttga tatggcatta aatattctaa gagtaaagg taaacaaaagg 102720  
ggtattttag taaccttgcg tctggagct ctgctgttat tttgcctcgt ttggcgggtg 102780  
acctctgtg gttagaagtt ggccaggctc cctgagggtg actgcctgca ttccaggcgt 102840  
gccacttacc gtggaacttg aaacatttca gttattctga gagttagtt acagggtgcc 102900  
agatgtctc ggaggcattt tggatgacct aaaactccct tgtcagcccc acacataggg 102960  
aagcggaggg gcggagctgc ctctgtgca gaggtgggct ttgctcctac ctgcattgca 103020  
gtttattgca gtgccaggaa ttccttgggt ccccaaagag gtgagatcct ctggtcggcg 103080  
tgcacctct gtcactgggg gtctgggttg cctgaagagt cacaaactca agtctccatg 103140  
gggccatgcc agtcacacca ccaaggcctg cgatcactc agagtgcaga gattcgaggg 103200  
atggctgcac ctacagctcta ctctctggcc acataggaac atggcccaga gctaccccat 103260  
gttctggatg gtttttctt tctttcaaac aggttgaggt gccgtggcat aatcacagct 103320  
cactgcagcc ttgacctcct gggttcaggt gagcctccca cctcaacctc ctgagtagct 103380  
gggagtacga ggtgtgcca ccatgcctgg ctaagttttg tgtttttgt tttttgttt 103440  
ggtagagacg gggttttgcc tttttcttt ttaatttaag aaaaacttta aaacatttt 103500  
ttcaggagag tttagagttt aagacttttt cagatctttt tcgtataaaa atctcccaat 103560  
atataggttt tgggaaacta attaaacaca gttttgactt ctgtgattgt gtttacgtac 103620



acgtgcgtgt gtgtgcgtgt atgtagggtta gtttgccaat ctatttggca tccagagaca 103680  
accagacaga tccagaacat gggacatttg acaagatata gcttccaaat gtcagtgtct 103740  
cgaagacaa aaactgctgg ggagacgggt ccagataaaa gggggccgat gagacaattc 103800  
ctaagtgtaa aagtgggata ctggactgga tcctgtgggt cggggagggt gggcagttct 103860  
tagaaaggac atttgtgagt gtcctttgaa tatggactgt ataattattc tggttatatt 103920  
tctgtatcag tgttgaattt gccgggggtg gtgacagtgg tatctgttgt aggagaaata 103980  
cgctgaagaa ttgagatttg tgaagtatca gtgatgcctg cagctcagtt ttaagtggtc 104040  
cagccataaa atataatcaa tccattcact atcccaagtg tgtatgtgtg tgggggcagg 104100  
tggggcagga catggagaca gcaagtgatt gagtaggtgt aacaagcaaa cccagcagtg 104160  
gtggatactc actgtgccat cctcctttt ctgcagctgt gaactcttcc taaataagcc 104220  
tggggagggt agcccatctg taggctgcct attttgatat tctggctctg atcactccct 104280  
gccctacctg tgtgggagat aggggaagca gttttgcacc cagcagggtg gtgctactag 104340  
gggaaatgtg gtaggagggc tggctcagtc attttattaa atccttcaac atctactcct 104400  
agagcaccct cgatgtctca tgcccttggg caggctctcc agcgaagtgg ccagaagaga 104460  
catagtctt gacctcttg ggcaagaacc atgggtgaca gtaagagaaa ttgactgtaa 104520  
atgtgggaat gaaaataagg ttgtaaaaaa atattgaaaa aggtgccatg gaggaaacag 104580  
ggggataagg cttactcat gccaggacgc tgcactttgc tgtcactgcc atggaagcct 104640  
ctgaggggga ggaagaggat cagttagtgc ttcaaaaatg cctctcactg ctgcttgtgt 104700  
ggtgaatggg aaggctgagc cctgtcaaa ggtgatgatg gtttgggcta gggctctgtg 104760  
ggtccaaaga caccgagaaa agctgggtgg ctgatgttg acatatattg ctcttgggat 104820  
aatgaatgga ttgattagat aggagggaga gaaagagaga tcaagggtga cttctggatt 104880  
tccagcttga aaaactggat ggtgtgtcag cttccaagtc tgggaggact tgggaatcag 104940  
ggctggggca gggggcatag atttgggtgg aaaatccgag ctctgtctga gcgtatctga 105000  
gtcatccaag gggagataat gaagaagctg caggcagcag ctccagctctg aggggtgggt 105060  
aacagctggg aggcagcaaa gggagctgtg agttcaagcc atgggcgtgg acaaactcat 105120  
ctgcgagaaa gcttgaaga ggagaataga agcctgaagt caggctctga gaaaattctc 105180  
aaatctagag attgactgaa agcaccagaa acagcagcgg aggccgagca ggcacagcct 105240  
gagcagtagg aaaatcagga caggagcac agaggcccca catgggagct tcaggaagga 105300  
gggggcaggt agtagagcct cggcgctcag actggtgaga agcacgggtg ttgagtcctg 105360  
gtcctagagg cagtgggtgt acccctgccc accctagccc tgaggaccca gagctccttc 105420  
ctgttttga gctggcagag agaaaaactaa gagacgaact ttgctaagca gggcaaatgc 105480  
atccatttaa tcgtggaaga acggaagtac ccatattaaa gtgttgtgat aatagtaact 105540  
atcgttatta ttaattactg acccctccgg gagaagctaa ccatcttcca ggcaccgtgg 105600  
cagagcattt gacataaagc atcttacgta gccctcagaa caaccggaa ataggtggga 105660  
tttggatccc ccattgtatg ggggaggacg atgaggaagc agcatgaatg gtttgagacc 105720  
agatgtgtca ggaggactca gatgtcctca cttctgagaa gcggacttgt aggtctgaag 105780  
agtggagtgg caggctccag acctaggtct cctggtcccc cactcagctg tctcctgtct 105840  
tcatgaggcc cctaactctc tctaaactga ggcaagacca atgagattcc acgtgggggg 105900  
cgggtgaggg gttgtttagt gccccagtgt ggcctcattg tctctacatt gaataacagc 105960  
ccaaggtaaa agggatattg tatgggcctt taagacatgg catggttcca aagccactta 106020  
ctggaggcca cctgcagtta aggaccaga ataggtttga aaatggagggt agatgaagat 106080  
gttaagcatg gtccccctgc gagggtctcg cttccaaaaa tggagggtctt attcttgaag 106140  
gtggagaatg aagaaccagg caaagggtcc ggcctgtgct tccccacacc catccctca 106200  
caatggggag ccatgggctt gtgagagacc tgcttgctg aaggaagggg caaaagagaa 106260

ctgttgatta catcgttact gatgtactgg gttcatctgt gctcagcgct gggccgattg 106320  
agatgaacac acagtgcctg gcctccagca gctttcagtt gtgtgtgtac atgtgtgtgt 106380  
gtgcgtgagt gtgtgagtggt tggggtaggg gttggggatt ggagacagag aagtgaaaaa 106440  
acaccatggt gtatatagca atgcaattag gtaataggggt atttgagcct tacacaattt 106500  
ataaaatcct tactattttt agctcaaatc acactaattt tactttttta accaaatccc 106560  
aaaccaggt aacctcaaa gtgttaaacc tgagcagttt gtttttcggt tttgttttg 106620  
agacagggtc tcactctgtc acctggctgg agtgacagtg cgtgatcttg gctcactgca 106680  
gccttgccct cctgggttca agtgattctc ccacctcagc ctctgagtt gctgggacta 106740  
caggcatgta ccaccacacc tggctatttt ttggtagaga cggggtttta ccataccatg 106800  
ttggccaggc tggctctgaa ctctgacct caagtatct gccacctca gcctcccaa 106860  
gtgctgggat tacaggcatg agccactgcg cctggccctg agcagttttt ttttttttt 106920  
ggttgagaca gagtctagct cttttgccga ggctggagtt cagtggcgct atctcggctc 106980  
actgcagcct ctgcctccca ggttctagcg attctcctgc ctacgacctc caagttagctg 107040  
ggactacagg cgcttgccac cagccccggc taattttttg tgttttttagt agagatgggg 107100  
tttcgctgtg ttagccaggg tggctctccat ctctgacct cgggatccgc ctgccttggc 107160  
ctcccaaagt gctgggataa caggtgtgag ccaccacgct cagcctgagc agttttttta 107220  
gtgaagcccc agcttcccca cctgtaaaaat ggggtataaca ctatccatgt cataggttg 107280  
cgcaggaatt cgatgtcatc agccatactg ggcacagggc atactgtcta catcatagg 107340  
atgttggtct tccttcctt agtgaccac tgaccttcac ctatggaaca ccaaactgtc 107400  
ccaggggcct aattgtataa aatggtcagc tcctgtgtc ggagaacggc tgacattcct 107460  
gtggatgacg gggatttggc ttgcctttga ttactttctt tttctcgggt gtgggttcca 107520  
agtctcctct tattcaacct agaggctggg gtttgatgt tcctagcccc tgggatgagg 107580  
gatggccacg ctgactctg gctttcgtg agaagatggt ggaggaggcc gtcagcagtg 107640  
tctctgtgca agctgagccc taatgcatag ttggagccca gtgcgtggga agcacattct 107700  
tctgaccaca cagcttgcca gacacacaga gcgcgtgtcg gcaggagcac accaccggga 107760  
gagtttggcc cggggcttgg aagttcaatt tgaacaggcc tccaaaactg ggaacagggc 107820  
tgcagcccca gacgaatctc caggcagctt ctgtgagctc tcattgtttc tgcttccaac 107880  
ctggccaggg attgcaagct tgcgtggcct tcttgcttcc ccgcttctgg gcttaggcta 107940  
cccgggaggc ccagaagtgt gtgaacacaa ggaatagcta ggggtcgggg tggaaatcaa 108000  
taattcctta tttatatctc agggatcacg tagcttgccc cttttttaat tgtccatttc 108060  
gtggagtgcc taagatcgcc ccatttcag ccttggtgaa tggactgata agactttctg 108120  
cttcgtatga tagttaacct ttgccataa ccagtgtaaa aggcttcggt ggtgatattt 108180  
gtcttcttgt gtcttatctc tccccaaat agaagggtgat gattggagac cctaattacc 108240  
ttgtatcttg tggaaatctt gctatatgaa agtgaacaa aaatgcagca gctcacagta 108300  
gcgtatcatt tgtagaaagg aaaaatcata ggccgggctg ggtggctcac gcctataatc 108360  
ccagtacttt gggaggccga ggcgggtgga tcacttgagg tcaggagttt gagaccagcc 108420  
tgaccaacat ggtgaacccc tatctctacc aaaaatacaa aattagcctg atgtggtggt 108480  
gggcacctgc aatcccagct acttgggagg ctgagggcag gagaatcact tgaacctggg 108540  
aggcagagggt tgcattgagc caagatcgtg ccactgcact ctagcctggg aaacaagagt 108600  
gaaactccgt ctcaaaaaaa aaaaaaaaaa aaaaaaaag aaggaaaagt cgtaatagct 108660  
agatctttct gagaccaag agttagtgtc aagacaataa attagctgtt ctgcagcaag 108720  
tatttaatat ttcagtgttt agaatacagtg tatgtggcac attcagctg aggcagggtg 108780  
ttaggagaaa ctggactgag aacgtggata gacgggcatt ggccatggta gagaccaaga 108840  
aaggacatga ctatgcattt caggaaacct agtcatggga catggaggag gtacaacagg 108900

gctaagtttg gaagcgtaga gacccgctag acgggcagtg tggaaagtctc aggggggaggg 108960  
gcagacagtg aagatggcct ggactaaggc attagcagtg ggaaggcat ggtgtggaca 109020  
catgggaagg cattttggag ttgaaatcaa caggacttgg gaggaatgtg taaagaatac 109080  
cgggtgtag ctctccgatt aagagagaca aagcattgga ggagttgaaa ccttgaattt 109140  
gagacgtcaa gggaaatgtca gtggggaagt gtcccataga cagttgaaaa tgagaacatg 109200  
ggtctcagga gggaggtcat gatggagata cgaacttgcg catattttgt atgtgtttag 109260  
aattaatgcc ttgaggatat atggaaatac ataaacttaa tggacaattt cctctatttt 109320  
aagggacaga aaaagagaag agccagccag agattctaag agggcagggg gagacagaga 109380  
ggcagctgag ggaaggggac gggataaaac taaacagagg ggctgggtgt ggtggcttac 109440  
acctgtaatc ctagcacttt gggaggccga ggcggtggc tcacctgagg tcaggagttc 109500  
gagaccagcc tgaccgacat ggtgaaaccc cgtctctact aaaaatacaa aatattagcc 109560  
gggtgtgtgt gcaggcacct gtagtctcag ctactcggga ggctgaggca ggagaatcgc 109620  
ttgaaccag gaggcggagg ttgcggtgag ccaagatcgc accattgcac tcagcctgg 109680  
gcgacaagga caagactcca tgttaaaaca aaaaaacaa aaacaagaaa acctaaacag 109740  
agggaccatt ttaaaaaaca agcaagaaat caatagcatc tgaagccaca gaggaggaac 109800  
aactgaggag ttggaggacg tcatttgcgt ctaacaattc agaggttctt cataagcttc 109860  
aggagaggca agagtggaac acagattaga atgtttgaga agtgaccagg aatgaagaag 109920  
acacaatgtt ggattttaac caacgcttct gaaaattcag gtttaaaggc caggagagca 109980  
agtgttgaga gaaaagattt taggatgatc agatacagat ctataagcag ctgaaagaaa 110040  
gacactggtg tggctggaca actggaggta gaagagaata tggttattta gtctaccttc 110100  
gctcttcaaa atgatcttc tatttattta taattccaaa acaatacat gtctgatcc 110160  
aggctctccg atgatcccag ttgacctgtc ttcttaatct tagagccaca ctgcgttttc 110220  
ttttcttttc tttctttttt tttttttttt tttagacag agtctcactc tgtcaccag 110280  
gctggagtgc aatggcgtga tctcagctca ctgcaacctc tgtctcccag gttcaagtga 110340  
ttcttgtgct tcagcctcct gtagtagctg gactacaggt gcacaccacc acgctcggct 110400  
aatttttgta gttttagcag agatgggatt ttgccgtgtt ggccaggctg gtctcgaact 110460  
actgacctca agtgatccgc ccaccttgac ctcccaaagt gctggtatta caggcatgag 110520  
ccaccgcacc cggcccacac tgtattttct atagtatacc gcaactggtt ttaaacatca 110580  
gctatatttt ctatctgcat tttaagaaat gaacatattt ccttttttgt ctggcggtgt 110640  
tttgaaatta gttatttctc ttgcttcttt cttagatttca gtgtattcat cgagatttag 110700  
cagccagaaa tgttttgga acagaaaaca atgtgatgaa aatagcagac ttgggactcg 110760  
ccagagatat caacaatata gactattaca aaaagaccac caatgtaagt cgatggcagt 110820  
aacacagtg gcagggcggt ggggtagggt cagaatgttc cagggaagaaa ggccgtcaat 110880  
gttgagagct ggggtgggat gctggggacc cattccctcg ccccgattcc cgttcttttg 110940  
acttactatt cacaaactct caatatgcaa atttagcctc tattatgtca attttagtaa 111000  
atgtgaaaca ctatataca gaataatcag caaccgctag gattttctta tggttctcat 111060  
caagaacttt catagcaaaa actacagctt ggaagttact ggttttaatt ttgcctaata 111120  
actggtcaag gagcatctgt gtgctaggga gataaaggat agaatccaag gagatggcat 111180  
tttattaacg gccagacct gtgcatctca cacattgttc atggtcctca ttgggactga 111240  
tttctgctct attgactgac tagtaaaaac cgagaatatc agctcttaaa cagggcatag 111300  
ccctatttag cctgctaaga taaattcttt taaatatatt tagtttttgc atttctctct 111360  
acatttgcag gggcggtctc cagtcaagtg gatggctcca gaagccctgt ttgatagagt 111420  
atacactcat cagagtgatg tgtgagtaac tctcttttct ctggcttttt cctgggcttg 111480  
agtgcaaaa atactgtacg tacttcacct ttcttctctc tttagtggtt gctgcatttc 111540

acacattcgt agaaggtgca ggagctggcc ttagaaagga cagattttat ggtaggctga 111600  
 taaccaatgc tctgttacta atctgcctgg cttcaaagag cacagaaggt ggaactgctg 111660  
 acctccccct gccagagcgg aagtccttcc cttgaacata ttcattgtag tgcaactaca 111720  
 aagcggttat ctaattcgcc aagtccttgg catgttcttc actccattaa aggagtaatc 111780  
 ctggagcttt tcccacttac gagtagtttg tcatatttcc ctctaaccga gatttgctct 111840  
 taaagagtgg agctgagtga gatgtggtcc aggctgggga cctccacagg gtctactctc 111900  
 tatgtttatc cctcaacaaa aaggtctgat cttgctttgg catccttgat agcattctag 111960  
 aaacacagta gaattttctt attatgatat actgacaaaa ccagtggggg caggctccaa 112020  
 ctgatatttt agatttgaaa attcagttga aggctgtgtg cagtgactca tacctgtaat 112080  
 caatcccagc actttgggag ggcaaggcgg gtggatcacg aggtcaggag atcaaggcca 112140  
 tcctggccaa catggtgaaa ccccgctctc actaaaacta caaaaattag ctgggcgtag 112200  
 ttatgcgtgt ctgtaatctc cactacttgg gaggtgagg caggagaatc gcttgaacct 112260  
 gggagtcaga ggttgacagt agctgagatt gtgccactgc actccagcct ggcaacagag 112320  
 cgagactctg tctggggaaa aaaaaatcac ttgaactatt ttttatttgt atgagcagga 112380  
 ggagttcttg gtaggcatta attctgtgct accatagttg gtcctctcaa caatcctaaa 112440  
 aaaaagacat gactatccca tttttgctgt gagcaactga ggcacagagg ctgttctgcc 112500  
 tgtcctgtgc tgctgctttt gctctgtaga aaactgcgga gtgaaacacc accatcgagt 112560  
 acagaagggt gagtttccag aacgaccatg atgtagctaa acctggctct ctcagcttgc 112620  
 tcctcccaga gattgagcct cctgaacttg gcacaggaag tccaaatctc tgaagagtca 112680  
 agtgtaaaata aattatggcc tgtgagatgt gttcagtttt gttgtgtgca actcatctgg 112740  
 ggcatgtgat tctctatcct aacccagacc cagtgtgat tgcctttgag atcttagtaa 112800  
 gttccagagc ctctgtgcag cagatgttcc gccagccaca cagggcagct gtgactctgc 112860  
 ggagttggct tgctggcctt attctgtcaa ctgcccaccc ttgtagatca caaccttg 112920  
 gtcaggcaca taaggagtgt gaaaggagcg taaaggcttt gaaactgaga aactgagatc 112980  
 cttgcattgc taacaccaca tttaagacaa gcagctctat tccagagtga tggcagtttg 113040  
 cctttttgtc tattgatgga aaattccatc agcacatccc cgtgtcatca tcattcgggg 113100  
 atgctcttgc agggcaggaa agagcacata ggaggaactg caggaggggc catttgtctt 113160  
 tgaacttcag aagtgaggag gtgtttatgt ctcagctggg cgtgtttagg ttttggcaac 113220  
 gtggatgggt tagtaatgcc gtgctttctc cttttgttgc agctggctct tcgggggtgt 113280  
 aatgtgggag atcttcaact tagggggctc gccctaccca gggattcccg tggaggaact 113340  
 ttttaagctg ctgaaggaa gacacagaat ggataagcca gccaaactgca ccaacgaact 113400  
 gtaagggtgt ttgtctttcc tgccgggtgc ccagtggact tgccacacca gtaatactc 113460  
 tctgatgta tctcgttttt gaaggccctt ggtttcctaa acatgtctta agaagaatgg 113520  
 ctgaagctct ctgggctcaa tccagagctg ggatacatag cgacaccgac aaccattact 113580  
 tgtctgagag aaagaacatt attctgagta tggagagggc tttggatcag aggggtgtct 113640  
 gctgcctggc tgagggtctc tgactttgca gagccagcag gtagtgctct cctggggcac 113700  
 tgtgtgcac cttctgcgtt ctcccgtgga gtgacaggaa gaccacggg tcaggaaaca 113760  
 agctagaaa ccgccccggc gccctgcagg gtgtaggatt aaggaaacaa cacagccttt 113820  
 ccctggtggt tgtgcctggc ccccgcttgg ccccatcgtg gccagtagag aatcggtgtt 113880  
 tccagaactt ctccaacctt tgaaaattgc cattacagat tgacgccaac cacatttctt 113940  
 cagagcgaag gaactcgtgt ttggttacct aggtctcact tgtgttttag tgcagagaat 114000  
 taaacatgtt tccaggcgcc ctccctactg taccagatct gcctgtaaaa ccatgaactg 114060  
 gttttagtga aaacctgcct cacactttaa gtggagttat gttgtgtttg tgacgtgtgc 114120  
 ctggtgcaat agaatacgtg ctttgaaagg agtctctctg cctctgcct caaccctc 114180

[illegible]

tcccagctac tccgggaggc tgaggcagga gagtcacttg aaccggggag gcggagggtg 116880  
cagtgagccg agatcatgcc attgcattcc agccttggcg acagagcgag actccgtctc 116940  
aaaaaaaaa aaaataaaaa taaaaaagaa agaaaccggg aaagcacta aagttctatt 117000  
ttaatgatct catgtctatg ctcaaagtga tttatttata tatttacatg tagagtgggt 117060  
ccgttgatac tgaaatttgt atctagtacc ctaaaaataa aaagcagaat gccatattgt 117120  
ctggtggata taaaaatcga agtttcttcc ctctgaaaa tcattaccat atgtctcaaga 117180  
aaaacggttc catttaggac aaaatttcgt tttatcatt gtaagcaaaa agttctcttt 117240  
tgatgtgggt ggcgtgtttg tttccagttg tgtggttaat gctgatgttg ttggaactga 117300  
tacattcccc ttctgggatg ctgggatggg gactctttct ctgccaacc ctggtgatga 117360  
attagagggt tttgtgtgtg tgtgtgtgtg tgtgtgtgtg tgtgtcttta aaaatgtcta 117420  
gttgccaaca ttccatgggc tcttttctga taacactgag gctgtttgtg ctgtggtctg 117480  
cactttttgc cccctctcag caaaaccaca tgatcatagaa tagttgttg ctctcggatg 117540  
tgtgagcaga actgccccac tgtgccagcc cagtggaggc agagagaccc acaagttccc 117600  
aatttagaaa gcttttcata gcttcagAAC aggggtcggc aactgctttc tgtaaagggc 117660  
caggagtaga atattttcag ctttgccggc cctgtggtct ctgttgcaac ttcgccactg 117720  
tagcctcaaa gttagccacag acaatatgta aatagatgtg ttctagtctg tcttctagta 117780  
aaattttatg gatcctgaaa ttggaatttt atataattgt atataaattt tattcatttt 117840  
aatctataa gatattcttc ttcttttgat ttttttttcc aaccgcttac caatgttaaa 117900  
gaccatcttt agccctcagg ccatacaaaag tcgtctgttg gcacccaagt cggaggaagt 117960  
gtcaccctgg ggtgatccag agggcttttt gcagcaccag cactggatgc cttggggagc 118020  
aaaggacact ttctgaatct cgaaccttca aaactttgaa acttaaccga tattttctctg 118080  
aagtttctct taacagtgca ttatggattt aacatacatg agtatgtcta agcctttttt 118140  
gaacctgttt acattttcaa ctccggagagc ttctgagagt aatcagttac atctgttaaa 118200  
ttaccactg aatgaagaag tattccctct caattatccc cgaaactaca atagtaaaat 118260  
gtaattcaga aaataaatat tcatagtctc aactacttaa aggggggtctg gggaccacaca 118320  
acatgttacc ggttttcatt ttgctggggc tcgcatttga agcaagggtc ctagttagga 118380  
ggtggtgtag actcagcggg ttatttaggt ccgtgtgaag ccgagttgcc tgcccagcac 118440  
ctatagctca actaggtttt attgttctct acctgtcaat agttgattta tgatggattc 118500  
caagagaaaa gctaaggaca gcctggggta catcagacgt ggtctcaggg aggtcttctg 118560  
ggaagtccag tgggctgggt ctctgttcac ctcttagggg tctcctgtcc tgtccacgt 118620  
ccaataccca catctcaaga gtttgtgttt gaaataaaac tcttctcttc cttcttttca 118680  
ggaataactt gacctcagtc agcctctcga accgtattca cctgtttatc ctgaccaag 118740  
atgaaataaa acgtctctct tcccttcttt caggaatact tggacctcag ccaacctctc 118800  
gaacagtatt cacctagtta cctgacaca agaagtctct gttcttcagg agatgattct 118860  
gttttttctc cagaccccat gccttacgaa ccatgccttc ctcatgatcc acacataaac 118920  
ggcagtgtta aaacatgaat gactgtgtct gcctgtcccc aaacaggaca gcactgggaa 118980  
cctagctaca ctgagcaggg agaccatgcc tcccagagct tgttgtctcc acttgatat 119040  
atggatcaga ggagtaaaata attggaaaag taatcagcat atgtgtaag atttatacag 119100  
ttgaaaactt gtaatcttcc ccaggaggag aagaagggtt ctggagcagt ggactgccac 119160  
aagccaccat gtaacccctc tcacctgccg tgcgtactgg ctgtggacca gtaggactca 119220  
aggtggacgt gcgttctgcc ttcttgttta attttgtaat aattggagaa gatttatgtc 119280  
agcacacact tacagagcac aaatgcagta tatagggtgt ggatgtatgt aaatatattc 119340  
aaattatgta taaatatata ttatatattt acaaggagtt atttttgtta ttgattttaa 119400  
atggatgtcc caatgcacct agaaaattgg tctctctttt tttaatagct atttgctaaa 119460

tgctgttctt acacataatt tcttaatttt caccgagcag aggtggaaaa atacttttgc 119520  
tttcaggga aatggtataa cgttaattta ttaataaatt ggtaatatatc aaaacaatta 119580  
atcatttata gttttttttg taatttaagt ggcattttcta tgcaggcagc acagcagact 119640  
agttaatcta ttgcttggac ttaactagtt atcagatcct ttgaaaagag aatattttaca 119700  
atatatgact aatttgggga aaatgaagtt ttgatttatt tegtgtttaa tgcgtgtgtc 119760  
agacgattgt tcttagacct cctaaatgcc ccataattaa agaactcatt cataggaagg 119820  
tgtttcattt tgggtgtcaa ccctgtcatt acgtcaacgc aacgtctaac tggacttccc 119880  
aagataaatg gtaccagcgt cctcttaaaa gatgccttaa tccattcctt gaggacagac 119940  
cttagttgaa atgatatgag aatgtgtctt tctctggcag ctggccttct gcttctgagt 120000  
tgcacattaa tcagattagc ctgtattctt ttcagtgaat ttgataatg gcttccagac 120060  
tctttggcgt tggagacgcc tgttaggatc ttcaagtcct atcatagaaa attgaaacac 120120  
agagttgttc tgcgtgatagt tttggggata cgtccatctt ttaagggat tgccttccatc 120180  
taattctggc aggacctcac caaaagatcc agcctcatac ctacatcaga caaaatatcg 120240  
ccgttgttcc ttctgtacta aagtattgtg ttttgccttg gaaacaccca ctcactttgc 120300  
aatagccgtg caagatgaat gcagattaca ctgatcttat gtgttataaaa attggagaaa 120360  
gtattttaata aaacctgtta atttttatac tgacaataaa aatgtttcta cagatattaa 120420  
tgttaacaag acaaaataaa tgtcacgcaa cttatttttt taatactcgt gtcttaccaa 120480  
atggtttgcc tgtgcttggg ggtgctgact gagggtgtgt gtgaatgcag gaaggcagag 120540  
gctgccaagg gtcttatgtg ctacacacgg ggtgacttgg ccagtggaat atctgaatca gttggttggg 120600  
cagcagtacc tgtgacaggt tgaggttgat ccagtggaat atctgaatca gttggttggg 120660  
gccctggctt ggttgccttac tggcacctca atggaatcat cgttcctttc tgagccctac 120720  
cagttcccca gaggagcaaa caaagagcca catggttagag agctttgcaa actggaaggt 120780  
gacctaaagg tgacagggtat tgagtaggga agacgttcag aacatctgaa tcttggggac 120840  
ttaaanaacct tttaggctgt tttcttcatg atgtatggag agaaggattt gcttcaaat 120900  
ttccaaaaga aaacttggac aaatgttcga ataattattt attttcatac caccaacgat 120960  
ctgaagaggg aaatggagtt ttgcctgtca gttaacaaat gtgaatctgt gactcttaag 121020  
ggtctgttgt atctacttgc cagcctcatc agcagcagga aaggggaattg aacataggcc 121080  
aacttctcct gcacttcagc caggctctta gaaccttaca gggccatttg taaagagtgc 121140  
tgtctttggg gtcttctttc tgtttgagga cattcatggt ggagcaaggt gtcaccagcc 121200  
atcaggggag tggcctaggg tcctggttct gtatttccca aacctctgtc cttctgtttc 121260  
ttacaggata acagggctct tgggaatgtg attttaaaaa taaggtgcat gaaagccacc 121320  
taagaaaatt gtcacctgtt agacacaagt gtacagggtg atgttctgta cccctgggga 121380  
catttctacc gtgagatgtc cttggcaagg gtgaggatgg acttgcctgg gtctacgctg 121440  
gttccctcgt gcagctctct ggtgcatatg ctgtacttta gacactgaag ggcagtttat 121500  
agccttgaca gtgtagatta taatggcagt aagaactgct gtatttctgg cccatttcat 121560  
ggagatgggt gggcaagaat cctaaatggt cttttggcca ttttgatttt agaattattt 121620  
tgaaagagac acttgtcatg aagggcaaga aggcagtgtg gtccatgaga atgatatgta 121680  
atacagtacc tttttttttt tgagacctgt cccaaatgag catacacagg taggattcga 121740  
taagaatcct ggagcttatg gctctctctc cccaagaacc taaggagagc gttggaaatt 121800  
agttgcaact acatgtgatg gtcacctaac catcatgaga tgagttcatt tgtgaagaac 121860  
caaaagattg caggcatctt ggatgtgtag tgcccgccct gctgttccta actgggaaaag 121920  
gcataatcaa gaggctgcct caaaacgtct agctgatggt agcctctggc aggatgggga 121980  
gccagagaaa gcgggtggaa aagtagcatc ttcacggggg ttctgtgcat tcccagggga 122040  
cagggtaccc tgcattccac acacagcctc tccatccctc ctcagggagc ttctctgcat 122100

ctgatcttgt ggggagttcc ttaacccac acataggaac ataggaaatt aaaacatgca 122160  
tttatagtaa aacgtctgaa caacttgagc tgctatgaac tgaggactcc acctccagtt 122220  
ttgaaaacaa gaaatggggc tgctaccta tactgcatca ctgaagattg cttgcagggc 122280  
tgggtccaga gggctcagct aggacagaag aggaagctga ggtcccgctt gaggtcctcg 122340  
agggtccat ggctgggatg tggcttaagg aacaagactg cagccttggt cagtgcagga 122400  
gaaagacagt ggacttggtg gcttgacag aattgattgg tttgttctt acagctgggt 122460  
gatggtgcgc aaatcccagc ttctgtctgg atgtttgtct ctagggtgaac ctggctcctca 122520  
ccagcctctc gacttgccat gaggatttgc tgtagggtt agctgtggca gacaggactc 122580  
aataagtgtt cgttttctac ttcttgagaa ttttttcta catttcagt atttttagtat 122640  
atccacgttg tgtaaccatc accactatct aattccaaaa cgttttctc actccataaa 122700  
gccacaaat tcccattgtt agccacttgc atttccccct ccccagtc tgggcaacc 122760  
ccaatctgct ctctgtctat ggatttgctt actctagaca tttcatgtaa atggaatcat 122820  
atgctatgtg acctttttt tccaacttct tcaactaatg ttttcaagat ttgttcatac 122880  
ggtagcctgt aacagcactt catttttatt gccaaatcct attccatgat ataaatttac 122940  
tacattttgt ttatccattt gtccattgat ggacatttag attgtacttt ccagttatga 123000  
atagtgtgt tatgaacatt catgtactgg gttttgtgt ggtcaggttt tcatttctct 123060  
tgggcatata ttaggagtg gaattgcggg atcatatgg aactgctaga ctgttttcca 123120  
agggtggtgc actattttac attcccacca gcagtgcag agcattccag tttttccaca 123180  
tccttgctaa cacttgctat tatccatatt ttttattata gccatcctag tggatatgaa 123240  
gtatcttcat aagaatttcg tagctgagga gataggatgc agatcattga ataaagatac 123300  
ataatgcttt cctgggtttt ccagaaaaag atacttcaat taatcagctt ggtttctaca 123360  
ctgatgaaat ggccaaggta gctaagatgc ctcagtggat cttcatgaaa tggagaagct 123420  
gagaaaccaa tcaattccct gtcttccctc ttggctgaga gaggaaggaa gcactgctaa 123480  
gtggtgcaag gatgcaggat ctttctggct ggaatgcttg agtgtatctg tcctcacatc 123540  
cccagtttta taccaagtaa agtcacgcaa gcttgagcag tccatgcgga ctaatgaatg 123600  
caccattact tatgtatgtg ggtccattag gttcctcctt accaagcctg cattttgatg 123660  
ttatttattt tttcatggtt ttaaagatga aagcaaatg tatcttctct cacatttcat 123720  
ccccaggagc cttgaaatga cttggctgtc gaccctgggc agggacagca gaagccgtcc 123780  
atgtctcaag tgacattctg gagtagggcc cttcttgctc ctttttttta tgccgggtgt 123840  
ctgggatttt tgaatgggct cctccaaatt gccttgaagt cctgtttcag aaggtcacat 123900  
gaggtgctgt agaagtcagt ggatgggagg gcattcaatg tccggcactg gggaaccatc 123960  
cgctccggag ctttgaata caatttaca agggatacct cagcacatga agctgttcag 124020  
tgactgaatt cagcttaccg tgcacatatg ggtagggtgat ttttctctc tgcagctcag 124080  
aacactgcct cttttgggc tgcactcctt ttaggtttct tttctctctc taattctttt 124140  
ttaggctgga gtgcaatggc atgatctagg ctcactgcaa cttccgctc ctgggttcaa 124200  
gccattccac tgctcccagc ctctaattct cttttgagga cacttaactg atgcttgctg 124260  
gtgtctctta ctagttaaaa tccatagcat gagtgcttt gaaagggaca gaggacactt 124320  
aactgacgt tgctggtgtc tcttactagt taaaatccat agcatgaggt tctttgaaag 124380  
ggacagagga cacttacaga tttataaatt aagaatcaag cagctgggag cggtggctca 124440  
tgctataat ccagcactt taggaggccg ctgtaggcag atcacctgag gtcaggagt 124500  
cgagaccagc ctgactaaca tggtgaaatc ctgtctctac taaaaatca aaaattagc 124560  
agggtgtggt gctaattgct gtaatcccg ctactcagga ggtgaggca ggagaattgc 124620  
ttgaacccgg gaagtggagg ttgcagttag ccaagatcac gccgttgac tccagcctgg 124680  
gtgagaagag ctaaacctccg tctcaaaaaa aaaaaaaaaa aaaaaagaag caaagaacgc 124740



tttcttggtc tgtaagtggg atgacaaatg attctatgtc aaaggattgt tgagttaaat 124800  
gagattgtac ctgggaagca tgaacacagt cctgctgcat attagccact atcaacactc 124860  
aggattatgc tgctatttcc atctgtctat ctacagctat ttgacataga tgtacttact 124920  
gaaacaaata tgaagataaa atatgtgtat gtgtatagat ataaaattgt cattgcggaa 124980  
gaaatttgtt tgtgaaattg ctaatctatt acaaacacaa gtgtccattg tacacacaat 125040  
ttttaacaaa aaacatttaa taagtttttg gtttgttttt tttttaattt tttgagacag 125100  
ggtcttgctc tgttgccag gctagagagc agtggcacaa tcatgaccca ctgcagactt 125160  
gtcctcttgg gctcaagcca tcctcccacc tcagcttccc gagtagctgg gactacaggc 125220  
atgcaccacc atgcctagct aatttctgta tgttttttgt agacctgggg ttatgccatg 125280  
ttgcccaggc tgggtctgaa ctcccagact caagcgatcc acctgcctgg gcctcccaaa 125340  
gtgctgcaat tacaggcgtg agccactgcg cccaggttaa taagttttaa atcaatgaaa 125400  
ataatgatca aaattttcaa aaacttatga agttgtattg ataacattca acctgttatg 125460  
gttccctttt taaacaagca ttcactttac gaatactaaa taggcaatga atgcctaata 125520  
tgatttttaa gggacaatta aacactttta gaagtgcaca gaccaggcca ggcacggtgg 125580  
tacacacctc taatcccagc actttgggag gccgaagcgg gtgtatcacc tgaggtcagg 125640  
agtttgagac cagcctggcc aacgtagtga aaccccatct ctactaaaaa tacaaaaatt 125700  
agcctggcat ggtggcgcca tgctgtaat cccagctact cgggaggctg aggcaggaga 125760  
atcgcttgag cctggggagg ggaggttgca gtgagccaag attgcaccac tgcactccag 125820  
cctgggcaac agagcaagag tccatctcca aaaaaaaaaa aagacatgcg cagaccaagc 125880  
tgggtgaatg tgaagtacca cgatctcaaa ggcagaccgg aacaggagca gctcaggatg 125940  
gtttctgcac ggcaaggctc ctccggctcc aggtttggtg ttgttacaag caaattgaaa 126000  
tgggtggtgt tacaaaggga aatatcacat gggaaaaacg gaggaagcct ggggctctcg 126060  
aagtttagga ttgtgtatgg ttcaggggct gcggaatttc tgggaattgt aaaattagcg 126120  
ccgttcacct gacagggttg gagagtgaat taaactttcc gttgtgtggg gaagtccatt 126180  
agatgttctt aatcacttct acagcgtgta ctgcagaggt ttaagtggga gaagatggct 126240  
ggaacatgaa cacgggctca aggctgccct ttcagattgt tctgtgactt gacttgtctg 126300  
ctcttctgga aggaggctgt gtatatcttt gtacacatga tcacagcagg agaggaaatc 126360  
ggaagcctcc tcttcttctt ggcttgggtc tgactcccca tgagactggc ctttctggtg 126420  
cctcttgccg gatttaggtt tcaccaaatt gcagaaattc cttgttgatg gctggctctc 126480  
accagtagc agccagagct gtgaatgaaa aaggcaaatg ccaaacttca aacctgggct 126540  
gaggggtgca gggagtggga gggcttgttc tgctgttgct tatttcagag cctgacaaat 126600  
ggaggccca agaccaaacc cagctcacta cccgcctttg tactgcttat gagctaagaa 126660  
atatttttaa atggttgaaa gtattatttt aaatatatat tttggctcac gcctgtaatc 126720  
ccagcacttt gggaggctga ggtgggtgga tcacgaggtc aggagatcga gaccatcctg 126780  
gctaacaatg tgaaccccg tctctactaa aaatacaaaa aattagttag gcatgggtgg 126840  
gggcgcctgt agtcccagct actggggagg ctgaggcagg agaatggcat gaacctggga 126900  
ggcagagctt gcagttagcc gagatcatc cactgcactc cagcctgggc aacagagtga 126960  
ctcgtctca aaaaaagaaa aaaaaaaaaa aaaaaaatat atatatatat atatatatat 127020  
atatatatat atatatatat atgtgcaaat tatataaagc cccagtttca gtgtccgtaa 127080  
atatttactg ggacacagcc acattcatc atgtacataa tgtctatggc tgctttccca 127140  
caacagcagc agagtgggaat ggtggcgaca gggattacc acaaaactga agacatttca 127200  
taccatggc tctttatgaa aaaatttgat gaccctggc ttagatctca aatgtgctag 127260  
ttggttgcca gacctaggca ggtggaatcc ttcccatgcc ttgtggggaa agacaatagc 127320  
agataacaag ggcctgaaac tgggagttgc tttcaaaaat aggggtccaa actgggtgtg 127380

gtggtccagg cctgtagtcc cagctaccga agaggctgat gagggagtat tgcttgagcc 127440  
caggaatttg agggccaccct gggcaacata gtgaaatctc atctcaaaaa aaaagaaaa 127500  
aaagaaaaaa gaaaaaaa aaaaaagaaa gagggccgggt gcagtagctc atgcctgtaa 127560  
ttctagcact ttgggaaact gagacgggtg gatcacgagg tcaagagatc gagacaatcc 127620  
tggccaacat ggtgaaatcc cgtctgtact aaaaatacaa aaattagcca ggtgtggtgg 127680  
cacgcacctg tagtctcacc tactcgggag gctgaggcgg gagaatttct tgaacctggg 127740  
aggcagaggt tgcagtgagc tgagatcgtg cactgtact ccagcctggt gaaacagcaa 127800  
gactctttct aaaaaaaaa aaaaaaaagc caggcgcggt ggctcacacc 127860  
tgtaatccca gcactttggg aggctgaggt gggcggaaca cggggtcagg agatcaagac 127920  
catcctggcc aacatggtga aacccatct ctactaaaat acaaaaattt agccgggcat 127980  
ggtggcacac acctgtatgc ccagctactt gggaggctga ggcaggggaa tcacttgaa 128040  
ctgggaagcg gaggttgcag tgagccgaga tggcaccact gcactccagc ctggtgacag 128100  
agcaagactc cgtctaaaaa acaaaaacaa aaaacagaat tgggggccat ttgagagatc 128160  
tccactaagg gtgggatga aagtcatgaa aactgccctt tgaccaagtg ggtgttcta 128220  
agattgtctg gagacagtaa gtggccaacg cgctgtgtct aaaccagcct tctgggcacc 128280  
gttttgcccc tgagcaaca tgcccactgc tcttcctaac aagcttgcca cagagatcca 128340  
caaaccaaag gctaaataaa caatgcggtt ctccggaag gaaggagggt gagaggctga 128400  
cattcggtt tgaacgtgc ttgtttgta ggaagtaaac ctggtctctt ccagcgagg 128460  
agcacctctg taccgtaaca ctgtattctt tgctcaggct ggaacaccaa gtccagggg 128520  
cagggtgccc ctctacaaa ccttgttgcc cgggttttct tccccatcac cccggtgtcc 128580  
ttgcacgcat taagctttcc atggatgcaa tgacaggcac gcacccttgt cagactctga 128640  
acacaaggc aatcccagga cagactagt ttggaaccgc cttagtttgc ctggacacaa 128700  
cgtaactgaa acttctttt ctcccatga gctggagttt aaaaagcgtc tccacagctg 128760  
tgatggtga aggctgaaa tgacagagcc acttgcccca taaatcagca tgcaacaccc 128820  
cccacgtaaa cagatccggg aaaaaaatc tacatacgca ataaatgtgt acagggtactg 128880  
gagactggta ataaaaatgc ttggatctgc tttcagtttt tcccttgtct tctaaatgaa 128940  
gctgaaagca aatacagcac taagccctta tttttctgat ctgaaagcag gtgaatgtgg 129000  
tcaagagcag gagatatgca gatgaagggg ggaccctaa tagtggaac ctgggtgttc 129060  
atagcctctt tggggaagca aagccttggg cagatcccca ggggtaagc gtgactctt 129120  
tttaagact gggcaggagg gagggagcag gcgaggctgg agcccgcat gttgggctgc 129180  
tctgacttac atggcacctg tagaccaggg gagaacctga gaaggggctc ctgggccagg 129240  
ggccaggcag gtatttgtg ttgtgtgtgt gtgtgcatgc ctatgactg tcgtagacca 129300  
gggtttcaca gcttttaaga acaataaaaa cattcagaat tcttctagt gccccacgac 129360  
gtagggcctt ctggttattt aagatctcca acatgcgtca aaagcagctt agggggggag 129420  
tccagatcat ccctacagct gcagaagagc acagcagcca gtaagaaaga agggtagtgg 129480  
gggagcggg gtgtgggggaa catggatggt tccagaattt ctccagagaa ttagtcaagg 129540  
gtctgaagt ggcatgaaac ggggtttgag gaactgggga gttgactgg agctggtttt 129600  
gcagagcaaa catactgctt taatgtaat caagtagttt tgttcatttg atttaggagg 129660  
ctggagtatg atacggtttg gctctgtatc cccacccaaa tctcatcac aattgtgatc 129720  
cccacatgtt gagggaggta cctgtaatcc ctacgtgttg aggggaggag gtgattggat 129780  
catgggggtg gtttccccc tgctgttctt atgatggtga gtgatttctc ctgacatctg 129840  
atggttttat aagtgtttga cagttctctc tacacacatt ctctctcgca cctgccagc 129900  
tgtaagatgt gccttcttca actttggccg tgactgtaag ttcctcgaga cctccccgc 129960  
catgtggaac tgtgaatcaa tgaagcctct tttctttata aattaccag tcacgggtat 130020

atctttatag caatgtgaaa acagactaat gtagagttta aaaatctccc caagctacct 130080  
caccctggcc tgccacttcc aaaaggtcta gttagcccga atagtttcat ttctaagccc 130140  
ttctctcaat cttccagacc aaagtgttag ccaccccagg ggtgcctgct ccccatcctt 130200  
gcaggtaaga agggacatgc gtattttcct gctccccac actcctttaa gcagtcatgc 130260  
ctcgctgtt ggctgcttgt tgtgcctggc tgatggatgc agctccaaag ctgaaacacc 130320  
gtcagagttt gtgtgaaggg agttgggggt gagtggttaa cttatctccc atgaggcagg 130380  
tgctttgacc caaggggcat ggtacattct agaaatgtgt agccaccccc cgtttccagg 130440  
ggagaatagg ctgtttgggt agagctggca tcacgagggg agaaacgagg ctggcacctt 130500  
cagagctggc tctttaagcc tggcccaaag caagtgtgtg aagttgctgt ctggggagac 130560  
ctctggaaca atttctggcc tcattctgcc tttcccagca agccagcaag tcacaggtag 130620  
tatgggcccc gcactgcact ggagatggga agtcatatta gttattaatc atccttgaaa 130680  
tagccctaag ggtgttctgt tagttttcta aggtgtcttt aagaaactac cacagacttg 130740  
gtggcttaac acaacagaaa tttattctgt cacagttctg gaggccagaa gtgtgagatc 130800  
aaggtgtcgg cagggccatg ctccttctga aggtctctgg ggggatttct ttacctcttc 130860  
tggcttctgg tggcgccaag tgttcttgg tttgtgactg catcacceca gtctgtttct 130920  
gtcttcacat gaccgtctcc tcttggtgtt tgtctgtcct ctgtgtgtct cttaggatgc 130980  
ttgtcattgg atttagggca caccacgta acacacgatg atctcatctt gaaatcctta 131040  
acttatttat atctgcaag accctgtttt caaaaaaggc catgtttaaa agttccgggtg 131100  
gttaggacat gggcatatct tttgggggcc actatttaac ccattgcaga agtggaggggt 131160  
tggagatttg aggtttgggt gccctctcca agaattttac aatcaggtta gtggagaaca 131220  
gggttggtac tcgtgaaaaga atttgctagg taacatattt tatccaaggg gctgctgtgg 131280  
tggcagagac tgtgtagaga ggccaggccc attccctgcc tcaccctgcc gagaaggaaa 131340  
cttgcttggg gtgcgtcttc ccagcgtttt ttctcatttc atcctcgtaa cagtggcggtg 131400  
agataggcac tgagaggcca gttaacacct acacaatcat gtggttgcca catgggagag 131460  
ctgggatgca aatctgtgtg agctgattct ggatctgggg atctaaatac tggtaacctt 131520  
gacagctgcc cagcaggccc tctctgatgg gggagcttca agggagggtg ggaccacac 131580  
ttgaccttcc tggaggctag aacaggagac agaaagttag tgagcttacc taggccagag 131640  
gaaggcttga gggtcattct tgggtggaca acagctatag gaataagccc tgcacaggag 131700  
gggaacaata agagaagact cttaaaaaag actctttagg ctgggtgcgg tggctcacgc 131760  
tggtaatccc agcacttttg gaggccaagg cggacagatc acctaaaggc gggagttcga 131820  
gaccagcctg gccaacatgg tggaaccccc tctctcctaa aattacaaaa caattagcca 131880  
ggtgtgttgg tgctcgcta taatcccagc tactcgggat gctgaggtgg gaggatcact 131940  
tgaaccagga aggcaggggc tgcggtgagc tgagatcatg cactgcact ctgacctggg 132000  
ctacagagca gattctgttt caaaaaaaaaa aagactccat aaagacttcc cttcccttca 132060  
catctgcccc cgtgaaggga actctttaaa gaaaaaatga ttgtctgagc tcaactggggc 132120  
aggcctcaac ccacgtctcc atggaatgga aatagtatcc cttgtggcct cctgaggagg 132180  
aaaaagattt tagggggatg gtgttaggca gagaaactgg ggggggtggga tggcatgatg 132240  
ccccctgggt ggtagctggc cgctgtgagg tgggtccatg ctttctccct cttcttctga 132300  
gtttgtcctt gacttagctc tggctgccat aacaaaatac cacagactgg gtgccttaaa 132360  
caacacgttt attcgctac agttctggag gctggaagtt cgagatcagg gtaccagcat 132420  
ggttgggttc ttaccgaagg cctcttctct ggcttgacga tggccaccct ctcgctctgt 132480  
gcccacctgg cattttcttg gtgcaagggc atggagagat taagcgatat ctcccactct 132540  
cttctcttcc ttatcaggcc accgatccta ttagaccagg acccattct tataacctcc 132600  
tgtaatcttc attacctct aactccatct cttagtcaca ttagggggtt aggacttcaa 132660

catatgaatt ttggggtggg gggcacaatt cagtccatag tagccctcct ccttccttcc 132720  
 ttccctgcct gctccatta gtcccttctg tottgactgc ct 132762

<210> 18

<211> 2941

<212> DNA

<213> Homo sapiens

<220>

<220>

<221> CDS

<222> (419) ... (2878)

<400> 18

cccgcgagca aagtttgggtg gaggcaacgc aagcctgagt cctttcttcc tctcgttccc 60

caaatccgag ggcagcccg cggcgctcatg gcgtctctcc gcagcctggg gtacgcgtga 120

agcccgagg gcttggcgcc ggcgaagacc caaggaccac tcttctgcgt ttggagttgc 180

tccccgcaac cccgggctcg tcgctttctc catcccgacc cacgcggggc cggggacaac 240

acaggtcgcg gaggagcgtt gccattcaag tgactgcagc agcagcgag cgctcgggtt 300

cctgagccca ccgagctga aggcattgcg cgtagtccat gcccgtagag gaagtgtgca 360

gatgggatta acgtccacat ggagatatgg aagaggaccg gggattggta ccgtaacc 418

atg gtc agc tgg ggt cgt ttc atc tgc ctg gtc gtg gtc acc atg gca 466  
 Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala  
 1 5 10 15

acc ttg tcc ctg gcc cgg ccc tcc ttc agt tta gtt gag gat acc aca 514  
 Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr  
 20 25 30

tta gag cca gaa gag cca cca acc aaa tac caa atc tct caa cca gaa 562  
 Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu  
 35 40 45

gtg tac gtg gct gcg cca ggg gag tcg cta gag gtg cgc tgc ctg ttg 610

Val Tyr Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu  
 50 55 60

aaa gat gcc gcc gtg atc agt tgg act aag gat ggg gtg cac ttg ggg 658  
 Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly  
 65 70 75 80

ccc aac aat agg aca gtg ctt att ggg gag tac ttg cag ata aag ggc 706  
 Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly  
 85 90 95

gcc aca cct aga gac tcc ggc ctc tat gct tgt act gcc agt agg act 754  
 Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr  
 100 105 110

gta gac agt gaa act tgg tac ttc atg gtg aat gtc aca gat gcc atc 802  
 Val Asp Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile  
 115 120 125

tca tcc gga gat gat gag gat gac acc gat ggt gcg gaa gat ttt gtc 850  
 Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val  
 130 135 140

agt gag aac agt aac aac aag aga gca cca tac tgg acc aac aca gaa 898  
 Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu  
 145 150 155 160

aag atg gaa aag cgg ctc cat gct gtg cct gcg gcc aac act gtc aag 946  
 Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn Thr Val Lys  
 165 170 175

ttt cgc tgc cca gcc ggg ggg aac cca atg cca acc atg cgg tgg ctg 994  
 Phe Arg Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu  
 180 185 190

aaa aac ggg aag gag ttt aag cag gag cat cgc att gga ggc tac aag 1042  
 Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys  
 195 200 205

gta cga aac cag cac tgg agc ctc att atg gaa agt gtg gtc cca tct 1090  
 Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser  
 210 215 220

gac aag gga aat tat acc tgt gta gtg gag aat gaa tac ggg tcc atc 1138

Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile	
225	230 235 240
aat cac acg tac cac ctg gat gtt gtg gag cga tcg cct cac cgg ccc	1186
Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His Arg Pro	
245	250 255
atc ctc caa gcc gga ctg ccg gca aat gcc tcc aca gtg gtc gga gga	1234
Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly	
260	265 270
gac gta gag ttt gtc tgc aag gtt tac agt gat gcc cag ccc cac atc	1282
Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile	
275	280 285
cag tgg atc aag cac gtg gaa aag aac ggc agt aaa tac ggg ccc gac	1330
Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp	
290	295 300
ggg ctg ccc tac ctc aag gtt ctc aag cac tcg ggg ata aat agt tcc	1378
Gly Leu Pro Tyr Leu Lys Val Leu Lys His Ser Gly Ile Asn Ser Ser	
305	310 315 320
aat gca gaa gtg ctg gct ctg ttc aat gtg acc gag gcg gat gct ggg	1426
Asn Ala Glu Val Leu Ala Leu Phe Asn Val Thr Glu Ala Asp Ala Gly	
325	330 335
gaa tat ata tgt aag gtc tcc aat tat ata ggg cag gcc aac cag tct	1474
Glu Tyr Ile Cys Lys Val Ser Asn Tyr Ile Gly Gln Ala Asn Gln Ser	
340	345 350
gcc tgg ctc act gtc ctg cca aaa cag caa gcg cct gga aga gaa aag	1522
Ala Trp Leu Thr Val Leu Pro Lys Gln Gln Ala Pro Gly Arg Glu Lys	
355	360 365
gag att aca gct tcc cca gac tac ctg gag ata gcc att tac tgc ata	1570
Glu Ile Thr Ala Ser Pro Asp Tyr Leu Glu Ile Ala Ile Tyr Cys Ile	
370	375 380
ggg gtc ttc tta atc gcc tgt atg gtg gta aca gtc atc ctg tgc cga	1618
Gly Val Phe Leu Ile Ala Cys Met Val Val Thr Val Ile Leu Cys Arg	
385	390 395 400
atg aag aac acg acc aag aag cca gac ttc agc agc cag ccg gct gtg	1666

Met Lys Asn Thr Thr Lys Lys Pro Asp Phe Ser Ser Gln Pro Ala Val	
405 410 415	
cac aag ctg acc aaa cgt atc ccc ctg cgg aga cag gta aca gtt tcg	1714
His Lys Leu Thr Lys Arg Ile Pro Leu Arg Arg Gln Val Thr Val Ser	
420 425 430	
gct gag tcc agc tcc tcc atg aac tcc aac acc ccg ctg gtg agg ata	1762
Ala Glu Ser Ser Ser Ser Met Asn Ser Asn Thr Pro Leu Val Arg Ile	
435 440 445	
aca aca cgc ctc tct tca acg gca gac acc ccc atg ctg gca ggg gtc	1810
Thr Thr Arg Leu Ser Ser Thr Ala Asp Thr Pro Met Leu Ala Gly Val	
450 455 460	
tcc gag tat gaa ctt cca gag gac cca aaa tgg gag ttt cca aga gat	1858
Ser Glu Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe Pro Arg Asp	
465 470 475 480	
aag ctg aca ctg ggc aag ccc ctg gga gaa ggt tgc ttt ggg caa gtg	1906
Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln Val	
485 490 495	
gtc atg gcg gaa gca gtg gga att gac aaa gac aag ccc aag gag gcg	1954
Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro Lys Glu Ala	
500 505 510	
gtc acc gtg gcc gtg aag atg ttg aaa gat gat gcc aca gag aaa gac	2002
Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr Glu Lys Asp	
515 520 525	
ctt tct gat ctg gtg tca gag atg gag atg atg aag atg att ggg aaa	2050
Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met Ile Gly Lys	
530 535 540	
cac aag aat atc ata aat ctt ctt gga gcc tgc aca cag gat ggg cct	2098
His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln Asp Gly Pro	
545 550 555 560	
ctc tat gtc ata gtt gag tat gcc tct aaa ggc aac ctc cga gaa tac	2146
Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu Arg Glu Tyr	
565 570 575	
ctc cga gcc cgg agg cca ccc ggg atg gag tac tcc tat gac att aac	2194

Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr Asp Ile Asn	
580	585 590
cgt gtt cct gag gag cag atg acc ttc aag gac ttg gtg tca tgc acc	2242
Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val Ser Cys Thr	
595	600 605
tac cag ctg gcc aga cgg atg gag tac ttg gct tcc caa aaa tgt att	2290
Tyr Gln Leu Ala Arg Arg Met Glu Tyr Leu Ala Ser Gln Lys Cys Ile	
610	615 620
cat cga gat tta gca gcc aga aat gtt ttg gta aca gaa aac aat gtg	2338
His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asn Asn Val	
625	630 635 640
atg aaa ata gca gac ttt gga ctc gcc aga gat atc aac aat ata gac	2386
Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn Asn Ile Asp	
645	650 655
tat tac aaa aag acc acc aat ggg cgg ctt cca gtc aag tgg atg gct	2434
Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys Trp Met Ala	
660	665 670
cca gaa gcc ctg ttt gat aga gta tac act cat cag agt gat gtc tgg	2482
Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser Asp Val Trp	
675	680 685
tcc ttc ggg gtg tta atg tgg gag atc ttc act tta ggg ggc tcg ccc	2530
Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly Gly Ser Pro	
690	695 700
tac cca ggg att ccc gtg gag gaa ctt ttt aag ctg ctg aag gaa gga	2578
Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys Glu Gly	
705	710 715 720
cac aga atg gat aag cca gcc aac tgc acc aac gaa ctg tac atg atg	2626
His Arg Met Asp Lys Pro Ala Asn Cys Thr Asn Glu Leu Tyr Met Met	
725	730 735
atg agg gac tgt tgg cat gca gtg ccc tcc cag aga cca acg ttc aag	2674
Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr Phe Lys	
740	745 750
cag ttg gta gaa gac ttg gat cga att ctc act ctc aca acc aat gag	2722



Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn Glu  
 755 760 765

cga att ctc act ctc aca acc aat gag aac ttc cag agc acc tca gga 2770  
 Arg Ile Leu Thr Leu Thr Thr Asn Glu Asn Phe Gln Ser Thr Ser Gly  
 770 775 780

aga gag ggc acg gag att cat gct ctt caa tgc ctc aga tgc gaa gta 2818  
 Arg Glu Gly Thr Glu Ile His Ala Leu Gln Cys Leu Arg Ser Glu Val  
 785 790 795 800

aca cct gcc att tcc tgt gag agc cca ttg gct gac act ggt tcc aag 2866  
 Thr Pro Ala Ile Ser Cys Glu Ser Pro Leu Ala Asp Thr Gly Ser Lys  
 805 810 815

gtc cca aac taa ctacatggga agcaggaagc accaagaagc tgatggagaa 2918  
 Val Pro Asn

tcgggttttg gaagcaatag tga 2941

<210> 19  
 <211> 2868  
 <212> DNA  
 <213> Homo sapiens

<220>

<220>  
 <221> CDS  
 <222> (419)...(2734)

<400> 19  
 cccgcgagca aagtttggtg gaggcaacgc aagcctgagt cctttcttcc tctcgttccc 60  
 caaatccgag ggcagcccg gcgcgtcatg gcgcctctcc gcagcctggg gtacgcgtga 120  
 agccccgggag gcttggcgcc ggcgaagacc caaggaccac tcttctgcgt ttggagttgc 180  
 tccccgcaac cccgggctcg tcgctttctc catcccgacc cagcgggggc cggggacaac 240  
 acaggtcgcg gaggagcgtt gccattcaag tgactgcagc agcagcgag cgccctcggtt 300

cctgagccca ccgcagctga aggcattgcg cgtagtccat gcccgtagag gaagtgtgca 360  
 gatgggatta acgtccacat ggagatatgg aagaggaccg gggattggta ccgtaacc 418  
  
 atg gtc agc tgg ggt cgt ttc atc tgc ctg gtc gtc gtc acc atg gca 466  
 Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala  
 1 5 10 15  
 acc ttg tcc ctg gcc cgg ccc tcc ttc agt tta gtt gag gat acc aca 514  
 Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr  
 20 25 30  
 tta gag cca gaa gag cca cca acc aaa tac caa atc tct caa cca gaa 562  
 Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu  
 35 40 45  
 gtg tac gtg gct gcg cca ggg gag tcg cta gag gtg cgc tgc ctg ttg 610  
 Val Tyr Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu  
 50 55 60  
 aaa gat gcc gcc gtg atc agt tgg act aag gat ggg gtg cac ttg ggg 658  
 Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly  
 65 70 75 80  
 ccc aac aat agg aca gtg ctt att ggg gag tac ttg cag ata aag ggc 706  
 Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly  
 85 90 95  
 gcc aca cct aga gac tcc ggc ctc tat gct tgt act gcc agt agg act 754  
 Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr  
 100 105 110  
 gta gac agt gaa act tgg tac ttc atg gtg aat gtc aca gat gcc atc 802  
 Val Asp Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile  
 115 120 125  
 tca tcc gga gat gat gag gat gac acc gat ggt gcg gaa gat ttt gtc 850  
 Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val  
 130 135 140  
 agt gag aac agt aac aac aag aga gca cca tac tgg acc aac aca gaa 898  
 Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu

145	150	155	160	
aag atg gaa aag cgg ctc cat gct gtg cct gcg gcc aac act gtc aag				946
Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn Thr Val Lys				
	165	170	175	
ttt cgc tgc cca gcc ggg ggg aac cca atg cca acc atg cgg tgg ctg				994
Phe Arg Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu				
	180	185	190	
aaa aac ggg aag gag ttt aag cag gag cat cgc att gga ggc tac aag				1042
Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys				
	195	200	205	
gta cga aac cag cac tgg agc ctc att atg gaa agt gtg gtc cca tct				1090
Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser				
	210	215	220	
gac aag gga aat tat acc tgt gta gtg gag aat gaa tac ggg tcc atc				1138
Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile				
	225	230	235	240
aat cac acg tac cac ctg gat gtt gtg gag cga tcg cct cac cgg ccc				1186
Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His Arg Pro				
	245	250	255	
atc ctc caa gcc gga ctg ccg gca aat gcc tcc aca gtg gtc gga gga				1234
Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly				
	260	265	270	
gac gta gag ttt gtc tgc aag gtt tac agt gat gcc cag ccc cac atc				1282
Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile				
	275	280	285	
cag tgg atc aag cac gtg gaa aag aac ggc agt aaa tac ggg ccc gac				1330
Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp				
	290	295	300	
ggg ctg ccc tac ctc aag gtt ctc aag cac tcg ggg ata aat agt tcc				1378
Gly Leu Pro Tyr Leu Lys Val Leu Lys His Ser Gly Ile Asn Ser Ser				
	305	310	315	320
aat gca gaa gtg ctg gct ctg ttc aat gtg acc gag gcg gat gct ggg				1426
Asn Ala Glu Val Leu Ala Leu Phe Asn Val Thr Glu Ala Asp Ala Gly				

325	330	335	
gaa tat ata tgt aag gtc tcc aat tat ata ggg cag gcc aac cag tct			1474
Glu Tyr Ile Cys Lys Val Ser Asn Tyr Ile Gly Gln Ala Asn Gln Ser			
340	345	350	
gcc tgg ctc act gtc ctg cca aaa cag caa gcg cct gga aga gaa aag			1522
Ala Trp Leu Thr Val Leu Pro Lys Gln Gln Ala Pro Gly Arg Glu Lys			
355	360	365	
gag att aca gct tcc cca gac tac ctg gag ata gcc att tac tgc ata			1570
Glu Ile Thr Ala Ser Pro Asp Tyr Leu Glu Ile Ala Ile Tyr Cys Ile			
370	375	380	
ggg gtc ttc tta atc gcc tgt atg gtg gta aca gtc atc ctg tgc cga			1618
Gly Val Phe Leu Ile Ala Cys Met Val Val Thr Val Ile Leu Cys Arg			
385	390	395	400
atg aag aac acg acc aag aag cca gac ttc agc agc cag ccg gct gtg			1666
Met Lys Asn Thr Thr Lys Lys Pro Asp Phe Ser Ser Gln Pro Ala Val			
405	410	415	
cac aag ctg acc aaa cgt atc ccc ctg cgg aga cag gta aca gtt tcg			1714
His Lys Leu Thr Lys Arg Ile Pro Leu Arg Arg Gln Val Thr Val Ser			
420	425	430	
gct gag tcc agc tcc tcc atg aac tcc aac acc ccg ctg gtg agg ata			1762
Ala Glu Ser Ser Ser Ser Met Asn Ser Asn Thr Pro Leu Val Arg Ile			
435	440	445	
aca aca cgc ctc tct tca acg gca gac acc ccc atg ctg gca ggg gtc			1810
Thr Thr Arg Leu Ser Ser Thr Ala Asp Thr Pro Met Leu Ala Gly Val			
450	455	460	
tcc gag tat gaa ctt cca gag gac cca aaa tgg gag ttt cca aga gat			1858
Ser Glu Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe Pro Arg Asp			
465	470	475	480
aag ctg aca ctg ggc aag ccc ctg gga gaa ggt tgc ttt ggg caa gtg			1906
Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln Val			
485	490	495	
gtc atg gcg gaa gca gtg gga att gac aaa gac aag ccc aag gag gcg			1954
Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro Lys Glu Ala			

500	505	510	
gtc acc gtg gcc gtg aag atg ttg aaa gat gat gcc aca gag aaa gac			2002
Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr Glu Lys Asp			
515	520	525	
ctt tct gat ctg gtg tca gag atg gag atg atg aag atg att ggg aaa			2050
Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met Ile Gly Lys			
530	535	540	
cac aag aat atc ata aat ctt ctt gga gcc tgc aca cag gat ggg cct			2098
His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln Asp Gly Pro			
545	550	555	560
ctc tat gtc ata gtt gag tat gcc tct aaa ggc aac ctc cga gaa tac			2146
Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu Arg Glu Tyr			
565	570	575	
ctc cga gcc cgg agg cca ccc ggg atg gag tac tcc tat gac att aac			2194
Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr Asp Ile Asn			
580	585	590	
cgt gtt cct gag gag cag atg acc ttc aag gac ttg gtg tca tgc acc			2242
Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val Ser Cys Thr			
595	600	605	
tac cag ctg gcc aga cgg atg gag tac ttg gct tcc caa aaa tgt att			2290
Tyr Gln Leu Ala Arg Arg Met Glu Tyr Leu Ala Ser Gln Lys Cys Ile			
610	615	620	
cat cga gat tta gca gcc aga aat gtt ttg gta aca gaa aac aat gtg			2338
His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asn Asn Val			
625	630	635	640
atg aaa ata gca gac ttt gga ctc gcc aga gat atc aac aat ata gac			2386
Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn Asn Ile Asp			
645	650	655	
tat tac aaa aag acc acc aat ggg cgg ctt cca gtc aag tgg atg gct			2434
Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys Trp Met Ala			
660	665	670	
cca gaa gcc ctg ttt gat aga gta tac act cat cag agt gat gtc tgg			2482
Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser Asp Val Trp			

675	680	685	
tcc ttc ggg gtg tta atg tgg gag atc ttc act tta ggg ggc tcg ccc			2530
Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly Gly Ser Pro			
690	695	700	
tac cca ggg att ccc gtg gag gaa ctt ttt aag ctg ctg aag gaa gga			2578
Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys Glu Gly			
705	710	715	720
cac aga atg gat aag cca gcc aac tgc acc aac gaa ctg tac atg atg			2626
His Arg Met Asp Lys Pro Ala Asn Cys Thr Asn Glu Leu Tyr Met Met			
725	730	735	
atg agg gac tgt tgg cat gca gtg ccc tcc cag aga cca acg ttc aag			2674
Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr Phe Lys			
740	745	750	
cag ttg gta gaa gac ttg gat cga att ctc act ctc aca acc aat gag			2722
Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn Glu			
755	760	765	
cct cta tcc tga agagcgttgg accctggagc tgctggccac atcttgatct			2774
Pro Leu Ser			
770			
gccatatgtg gtccaagaat gaagtcaaca cgaaggagaa tgaagggtgct gagggataaa			2834
gttattgaca ttctaggagc tcctggatca aacc			2868
<210> 20			
<211> 2923			
<212> DNA			
<213> Homo sapiens			
<220>			
<220>			
<221> CDS			
<222> (419)...(2872)			
<400> 20			
ccccgcgagca aagtttgggtg gaggcaacgc aagcctgagt cctttcttcc tctcgttccc			60

caaatccgag ggcagcccg cggcgctcatg gcgctcctcc gcagcctggg gtacgcgtga 120  
 agccccgggag gcttggcgcc ggcgaagacc caaggaccac tcttctgcgt ttggagttgc 180  
 tccccgcaac cccgggctcg tcgctttctc catcccgacc cacgcggggc cggggacaac 240  
 acaggtcgcg gaggagcggt gccattcaag tgactgcagc agcagcgag cgcctcggtt 300  
 cctgagccca ccgcagctga aggcattgcg cgtagtccat gcccgtagag gaagtgtgca 360  
 gatgggatta acgtccacat ggagatatgg aagaggaccg gggattggta ccgtaacc 418  
  
 atg gtc agc tgg ggt cgt ttc atc tgc ctg gtc gtg gtc acc atg gca 466  
 Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala  
 1 5 10 15  
 acc ttg tcc ctg gcc cgg ccc tcc ttc agt tta gtt gag gat acc aca 514  
 Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr  
 20 25 30  
 tta gag cca gaa gag cca cca acc aaa tac caa atc tct caa cca gaa 562  
 Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu  
 35 40 45  
 gtg tac gtg gct gcg cca ggg gag tcg cta gag gtg cgc tgc ctg ttg 610  
 Val Tyr Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu  
 50 55 60  
 aaa gat gcc gcc gtg atc agt tgg act aag gat ggg gtg cac ttg ggg 658  
 Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly  
 65 70 75 80  
 ccc aac aat agg aca gtg ctt att ggg gag tac ttg cag ata aag ggc 706  
 Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly  
 85 90 95  
 gcc aca cct aga gac tcc ggc ctc tat gct tgt act gcc agt agg act 754  
 Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr  
 100 105 110  
 gta gac agt gaa act tgg tac ttc atg gtg aat gtc aca gat gcc atc 802

Val Asp Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile	
115	120 125
tca tcc gga gat gat gag gat gac acc gat ggt gcg gaa gat ttt gtc	850
Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val	
130	135 140
agt gag aac agt aac aac aag aga gca cca tac tgg acc aac aca gaa	898
Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu	
145	150 155 160
aag atg gaa aag cgg ctc cat gct gtg cct gcg gcc aac act gtc aag	946
Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn Thr Val Lys	
	165 170 175
ttt cgc tgc cca gcc ggg ggg aac cca atg cca acc atg cgg tgg ctg	994
Phe Arg Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu	
	180 185 190
aaa aac ggg aag gag ttt aag cag gag cat cgc att gga ggc tac aag	1042
Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys	
	195 200 205
gta cga aac cag cac tgg agc ctc att atg gaa agt gtg gtc cca tct	1090
Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser	
	210 215 220
gac aag gga aat tat acc tgt gta gtg gag aat gaa tac ggg tcc atc	1138
Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile	
	225 230 235 240
aat cac acg tac cac ctg gat gtt gtg gag cga tcg cct cac cgg ccc	1186
Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His Arg Pro	
	245 250 255
atc ctc caa gcc gga ctg ccg gca aat gcc tcc aca gtg gtc gga gga	1234
Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly	
	260 265 270
gac gta gag ttt gtc tgc aag gtt tac agt gat gcc cag ccc cac atc	1282
Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile	
	275 280 285
cag tgg atc aag cac gtg gaa aag aac ggc agt aaa tac ggg ccc gac	1330



Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp	
290 295 300	
ggg ctg ccc tac ctc aag gtt ctc aag cac tcg ggg ata aat agt tcc	1378
Gly Leu Pro Tyr Leu Lys Val Leu Lys His Ser Gly Ile Asn Ser Ser	
305 310 315 320	
aat gca gaa gtg ctg gct ctg ttc aat gtg acc gag gcg gat gct ggg	1426
Asn Ala Glu Val Leu Ala Leu Phe Asn Val Thr Glu Ala Asp Ala Gly	
325 330 335	
gaa tat ata tgt aag gtc tcc aat tat ata ggg cag gcc aac cag tct	1474
Glu Tyr Ile Cys Lys Val Ser Asn Tyr Ile Gly Gln Ala Asn Gln Ser	
340 345 350	
gcc tgg ctc act gtc ctg cca aaa cag caa gcg cct gga aga gaa aag	1522
Ala Trp Leu Thr Val Leu Pro Lys Gln Gln Ala Pro Gly Arg Glu Lys	
355 360 365	
gag att aca gct tcc cca gac tac ctg gag ata gcc att tac tgc ata	1570
Glu Ile Thr Ala Ser Pro Asp Tyr Leu Glu Ile Ala Ile Tyr Cys Ile	
370 375 380	
ggg gtc ttc tta atc gcc tgt atg gtg gta aca gtc atc ctg tgc cga	1618
Gly Val Phe Leu Ile Ala Cys Met Val Val Thr Val Ile Leu Cys Arg	
385 390 395 400	
atg aag aac acg acc aag aag cca gac ttc agc agc cag ccg gct gtg	1666
Met Lys Asn Thr Thr Lys Lys Pro Asp Phe Ser Ser Gln Pro Ala Val	
405 410 415	
cac aag ctg acc aaa cgt atc ccc ctg cgg aga cag gta aca gtt tcg	1714
His Lys Leu Thr Lys Arg Ile Pro Leu Arg Arg Gln Val Thr Val Ser	
420 425 430	
gct gag tcc agc tcc tcc atg aac tcc aac acc ccg ctg gtg agg ata	1762
Ala Glu Ser Ser Ser Ser Met Asn Ser Asn Thr Pro Leu Val Arg Ile	
435 440 445	
aca aca cgc ctc tct tca acg gca gac acc ccc atg ctg gca ggg gtc	1810
Thr Thr Arg Leu Ser Ser Thr Ala Asp Thr Pro Met Leu Ala Gly Val	
450 455 460	
tcc gag tat gaa ctt cca gag gac cca aaa tgg gag ttt cca aga gat	1858

Ser Glu Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe Pro Arg Asp	
465	470 475 480
aag ctg aca ctg ggc aag ccc ctg gga gaa ggt tgc ttt ggg caa gtg	1906
Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln Val	
485	490 495
gtc atg gcg gaa gca gtg gga att gac aaa gac aag ccc aag gag gcg	1954
Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro Lys Glu Ala	
500	505 510
gtc acc gtg gcc gtg aag atg ttg aaa gat gat gcc aca gag aaa gac	2002
Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr Glu Lys Asp	
515	520 525
ctt tct gat ctg gtg tca gag atg gag atg atg aag atg att ggg aaa	2050
Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met Ile Gly Lys	
530	535 540
cac aag aat atc ata aat ctt ctt gga gcc tgc aca cag gat ggg cct	2098
His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln Asp Gly Pro	
545	550 555 560
ctc tat gtc ata gtt gag tat gcc tct aaa ggc aac ctc cga gaa tac	2146
Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu Arg Glu Tyr	
565	570 575
ctc cga gcc cgg agg cca ccc ggg atg gag tac tcc tat gac att aac	2194
Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr Asp Ile Asn	
580	585 590
cgt gtt cct gag gag cag atg acc ttc aag gac ttg gtg tca tgc acc	2242
Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val Ser Cys Thr	
595	600 605
tac cag ctg gcc aga cgg atg gag tac ttg gct tcc caa aaa tgt att	2290
Tyr Gln Leu Ala Arg Arg Met Glu Tyr Leu Ala Ser Gln Lys Cys Ile	
610	615 620
cat cga gat tta gca gcc aga aat gtt ttg gta aca gaa aac aat gtg	2338
His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asn Asn Val	
625	630 635 640
atg aaa ata gca gac ttt gga ctc gcc aga gat atc aac aat ata gac	2386

Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn Asn Ile Asp	
645 650 655	
tat tac aaa aag acc acc aat ggg cgg ctt cca gtc aag tgg atg gct	2434
Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys Trp Met Ala	
660 665 670	
cca gaa gcc ctg ttt gat aga gta tac act cat cag agt gat gtc tgg	2482
Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser Asp Val Trp	
675 680 685	
tcc ttc ggg gtg tta atg tgg gag atc ttc act tta ggg ggc tcg ccc	2530
Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly Gly Ser Pro	
690 695 700	
tac cca ggg att ccc gtg gag gaa ctt ttt aag ctg ctg aag gaa gga	2578
Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys Glu Gly	
705 710 715 720	
cac aga atg gat aag cca gcc aac tgc acc aac gaa ctg tac atg atg	2626
His Arg Met Asp Lys Pro Ala Asn Cys Thr Asn Glu Leu Tyr Met Met	
725 730 735	
atg agg gac tgt tgg cat gca gtg ccc tcc cag aga cca acg ttc aag	2674
Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr Phe Lys	
740 745 750	
cag ttg gta gaa gac ttg gat cga att ctc act ctc aca acc aat gag	2722
Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn Glu	
755 760 765	
cgg tac aag ctg ctt ccc tgt cct gac aag cac aat aaa agg tgc aaa	2770
Arg Tyr Lys Leu Leu Pro Cys Pro Asp Lys His Asn Lys Arg Cys Lys	
770 775 780	
cct gag gaa cgt ggg gac ctc aca gag gca ggc gca gcc ggc tca tcg	2818
Pro Glu Glu Arg Gly Asp Leu Thr Glu Ala Gly Ala Ala Gly Ser Ser	
785 790 795 800	
aga tgt gtg gac agc aga aag cga gtg agg caa gag aaa atc agc aca	2866
Arg Cys Val Asp Ser Arg Lys Arg Val Arg Gln Glu Lys Ile Ser Thr	
805 810 815	
ggg taa acatcagaga tcaaagggca gcagctggag tcaactgggtg gagaagcagt	2922

Gly

g

2923

&lt;210&gt; 21

&lt;211&gt; 2826

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (419)...(2725)

&lt;400&gt; 21

cccgcgagca aagtttggtg gaggcaacgc aagcctgagt cctttcttcc tctcggtccc 60

caaatccgag ggcagccgc ggcgcgtcatg gcgctctctc gcagcctggg gtacgcgtga 120

agcccgaggag gcttggcgcc ggcggaagacc caaggaccac tcttctgcgt ttggagttgc 180

tccccgcaac cccgggctcg tcgctttctc catcccgacc cacgcggggc cggggacaac 240

acaggtcgcg gaggagcgtt gccattcaag tgactgcagc agcagcgag cgcctcggtt 300

cctgagccca ccgcagctga aggcattgcg cgtagtccat gcccgtagag gaagtgtgca 360

gatgggatta acgtccacat ggagatatgg aagaggaccg gggattggta ccgtaacc 418

atg gtc agc tgg ggt cgt ttc atc tgc ctg gtc gtg gtc acc atg gca 466

Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala

1

5

10

15

acc ttg tcc ctg gcc cgg ccc tcc ttc agt tta gtt gag gat acc aca 514

Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr

20

25

30

tta gag cca gaa gag cca cca acc aaa tac caa atc tct caa cca gaa 562

Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu

35	40	45	
gtg tac gtg gct gcg cca ggg gag tcg cta gag gtg cgc tgc ctg ttg			610
Val Tyr Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu			
50	55	60	
aaa gat gcc gcc gtg atc agt tgg act aag gat ggg gtg cac ttg ggg			658
Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly			
65	70	75	80
ccc aac aat agg aca gtg ctt att ggg gag tac ttg cag ata aag ggc			706
Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly			
85	90	95	
gcc aca cct aga gac tcc ggc ctc tat gct tgt act gcc agt agg act			754
Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr			
100	105	110	
gta gac agt gaa act tgg tac ttc atg gtg aat gtc aca gat gcc atc			802
Val Asp Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile			
115	120	125	
tca tcc gga gat gat gag gat gac acc gat ggt gcg gaa gat ttt gtc			850
Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val			
130	135	140	
agt gag aac agt aac aac aag aga gca cca tac tgg acc aac aca gaa			898
Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu			
145	150	155	160
aag atg gaa aag cgg ctc cat gct gtg cct gcg gcc aac act gtc aag			946
Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn Thr Val Lys			
165	170	175	
ttt cgc tgc cca gcc ggg ggg aac cca atg cca acc atg cgg tgg ctg			994
Phe Arg Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu			
180	185	190	
aaa aac ggg aag gag ttt aag cag gag cat cgc att gga ggc tac aag			1042
Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys			
195	200	205	
gta cga aac cag cac tgg agc ctc att atg gaa agt gtg gtc cca tct			1090
Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser			

210	215	220	
gac aag gga aat tat acc tgt gta gtg gag aat gaa tac ggg tcc atc			1138
Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile			
225	230	235	240
aat cac acg tac cac ctg gat gtt gtg gag cga tcg cct cac cgg ccc			1186
Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His Arg Pro			
245	250	255	
atc ctc caa gcc gga ctg ccg gca aat gcc tcc aca gtg gtc gga gga			1234
Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly			
260	265	270	
gac gta gag ttt gtc tgc aag gtt tac agt gat gcc cag ccc cac atc			1282
Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile			
275	280	285	
cag tgg atc aag cac gtg gaa aag aac ggc agt aaa tac ggg ccc gac			1330
Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp			
290	295	300	
ggg ctg ccc tac ctc aag gtt ctc aag cac tcg ggg ata aat agt tcc			1378
Gly Leu Pro Tyr Leu Lys Val Leu Lys His Ser Gly Ile Asn Ser Ser			
305	310	315	320
aat gca gaa gtg ctg gct ctg ttc aat gtg acc gag gcg gat gct ggg			1426
Asn Ala Glu Val Leu Ala Leu Phe Asn Val Thr Glu Ala Asp Ala Gly			
325	330	335	
gaa tat ata tgt aag gtc tcc aat tat ata ggg cag gcc aac cag tct			1474
Glu Tyr Ile Cys Lys Val Ser Asn Tyr Ile Gly Gln Ala Asn Gln Ser			
340	345	350	
gcc tgg ctc act gtc ctg cca aaa cag caa gcg cct gga aga gaa aag			1522
Ala Trp Leu Thr Val Leu Pro Lys Gln Gln Ala Pro Gly Arg Glu Lys			
355	360	365	
gag att aca gct tcc cca gac tac ctg gag ata gcc att tac tgc ata			1570
Glu Ile Thr Ala Ser Pro Asp Tyr Leu Glu Ile Ala Ile Tyr Cys Ile			
370	375	380	
ggg gtc ttc tta atc gcc tgt atg gtg gta aca gtc atc ctg tgc cga			1618
Gly Val Phe Leu Ile Ala Cys Met Val Val Thr Val Ile Leu Cys Arg			

385	390	395	400	
atg aag aac acg acc aag aag cca gac ttc agc agc cag ccg gct gtg				1666
Met Lys Asn Thr Thr Lys Lys Pro Asp Phe Ser Ser Gln Pro Ala Val				
405		410	415	
cac aag ctg acc aaa cgt atc ccc ctg cgg aga cag gta aca gtt tcg				1714
His Lys Leu Thr Lys Arg Ile Pro Leu Arg Arg Gln Val Thr Val Ser				
420	425		430	
gct gag tcc agc tcc tcc atg aac tcc aac acc ccg ctg gtg agg ata				1762
Ala Glu Ser Ser Ser Ser Met Asn Ser Asn Thr Pro Leu Val Arg Ile				
435	440		445	
aca aca cgc ctc tct tca acg gca gac acc ccc atg ctg gca ggg gtc				1810
Thr Thr Arg Leu Ser Ser Thr Ala Asp Thr Pro Met Leu Ala Gly Val				
450	455		460	
tcc gag tat gaa ctt cca gag gac cca aaa tgg gag ttt cca aga gat				1858
Ser Glu Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe Pro Arg Asp				
465	470	475	480	
aag ctg aca ctg ggc aag ccc ctg gga gaa ggt tgc ttt ggg caa gtg				1906
Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln Val				
485	490		495	
gtc atg gcg gaa gca gtg gga att gac aaa gac aag ccc aag gag gcg				1954
Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro Lys Glu Ala				
500	505		510	
gtc acc gtg gcc gtg aag atg ttg aaa gat gat gcc aca gag aaa gac				2002
Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr Glu Lys Asp				
515	520		525	
ctt tct gat ctg gtg tca gag atg gag atg atg aag atg att ggg aaa				2050
Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met Ile Gly Lys				
530	535		540	
cac aag aat atc ata aat ctt ctt gga gcc tgc aca cag gat ggg cct				2098
His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln Asp Gly Pro				
545	550	555	560	
ctc tat gtc ata gtt gag tat gcc tct aaa ggc aac ctc cga gaa tac				2146
Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu Arg Glu Tyr				

	565	570	575	
ctc'cga gcc cgg agg cca ccc ggg atg gag tac tcc tat gac att aac				2194
Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr Asp Ile Asn				
	580	585	590	
cgt gtt cct gag gag cag atg acc ttc aag gac ttg gtg tca tgc acc				2242
Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val Ser Cys Thr				
	595	600	605	
tac cag ctg gcc aga cgg atg gag tac ttg gct tcc caa aaa tgt att				2290
Tyr Gln Leu Ala Arg Arg Met Glu Tyr Leu Ala Ser Gln Lys Cys Ile				
	610	615	620	
cat cga gat tta gca gcc aga aat gtt ttg gta aca gaa aac aat gtg				2338
His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asn Asn Val				
	625	630	635	640
atg aaa ata gca gac ttt gga ctc gcc aga gat atc aac aat ata gac				2386
Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn Asn Ile Asp				
	645	650	655	
tat tac aaa aag acc acc aat ggg cgg ctt cca gtc aag tgg atg gct				2434
Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys Trp Met Ala				
	660	665	670	
cca gaa gcc ctg ttt gat aga gta tac act cat cag agt gat gtc tgg				2482
Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser Asp Val Trp				
	675	680	685	
tcc ttc ggg gtg tta atg tgg gag atc ttc act tta ggg ggc tgc ccc				2530
Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly Gly Ser Pro				
	690	695	700	
tac cca ggg att ccc gtg gag gaa ctt ttt aag ctg ctg aag gaa gga				2578
Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys Glu Gly				
	705	710	715	720
cac aga atg gat aag cca gcc aac tgc acc aac gaa ctg tac atg atg				2626
His Arg Met Asp Lys Pro Ala Asn Cys Thr Asn Glu Leu Tyr Met Met				
	725	730	735	
atg agg gac tgt tgg cat gca gtg ccc tcc cag aga cca acg ttc aag				2674
Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr Phe Lys				



740 745 750  
 cag ttg gta gaa gac ttg gat cga att ctc act ctc aca acc aat gag 2722  
 Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn Glu  
 755 760 765  
 taa agccaaggat atgggagggg aaaaaagggg aaagagtcac ggaaagccag 2775  
  
 cttcttgctg aaactccact aggtgccctg ctggaatctc cttgaaaga g 2826  
  
 <210> 22  
 <211> 310  
 <212> DNA  
 <213> Homo sapiens  
  
 <220>  
  
 <220>  
 <221> CDS  
 <222> (1)...(99)  
  
 <400> 22  
 gac ttg gat cga att ctc act ctc aca acc aat gag gaa tac ttg gac 48  
 Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn Glu Glu Tyr Leu Asp  
 1 5 10 15  
 ctc agt cag cct ctc gaa ccg tat tca cct tgt tat cct gac cca aga 96  
 Leu Ser Gln Pro Leu Glu Pro Tyr Ser Pro Cys Tyr Pro Asp Pro Arg  
 20 25 30  
 tga aataaaacgt ctctcttccc ttctttcagg aataacttga cctcagccaa 149  
  
 cctctcgaac agtattcacc tagttaccct gacacaagaa gttcttgctc ttcaggagat 209  
 gattctgttt ttctccaga ccccatgcct tacgaacct gccttctca gtatccacac 269  
 ataaacggca gtgttaaac atgaatgact gtgtctgcct g 310

<210> 23  
<211> 3025  
<212> DNA  
<213> Homo sapiens

<220>

<220>  
<221> CDS  
<222> (595) ... (2643)

<400> 23  
cgcggaacggc gaggagcgc gcgcggccgc cacaaagctc gggcgccgcg gggctgcatg 60  
cggcgtacct ggcccggcgc ggcgactgct ctccgggctg gggggggccg gccgcgagcc 120  
ccggggggccc cgaggccgca gcttgcttgc gcgtcttgag ccttcgcaac tcgcgagcaa 180  
agtttggtgg aggaacgcc aagcctgagt cctttcttcc tctcgttccc caaatccgag 240  
ggcagcccgc gggcgatcatg cccgcgctcc tccgcagcct ggggtacgcg tgaagcccgg 300  
gaggcttgcc gccggcgaag acccaaggac cactcttctg cgtttgagtg tgctccccac 360  
aacccegggc tcgtcgcttt ctccatcccg acccacgcgg ggcgcgggga caacacaggt 420  
cgcgaggag cggtgccatt caagtgactg cagcagcagc ggcagcgcct cggttcctga 480  
gcccaccgca ggctgaaggc attgcgcgta gtccatgccg gtagaggaag tgtgcagatg 540  
ggattaacgt ccacatggag atatggaaga ggaccgggga ttggtaccgt aacc atg 597  
Met  
1  
gtc agc tgg ggt cgt ttc atc tgc ctg gtc gtg gtc acc atg gca acc 645  
Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala Thr  
5 10 15  
ttg tcc ctg gcc cgg ccc tcc ttc agt tta gtt gag gat acc aca tta 693  
Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu  
20 25 30  
gag cca gaa gat gcc atc tca tcc gga gat gat gag gat gac acc gat 741  
Glu Pro Glu Asp Ala Ile Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp

35	40	45	
ggt gcg gaa gat ttt gtc agt gag aac agt aac aac aag aga gca cca			789
Gly Ala Glu Asp Phe Val Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro			
50	55	60	65
tac tgg acc aac aca gaa aag atg gaa aag cgg ctc cat gct gtg cct			837
Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg Leu His Ala Val Pro			
70	75	80	
gcg gcc aac act gtc aag ttt cgc tgc cca gcc ggg ggg aac cca atg			885
Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala Gly Gly Asn Pro Met			
85	90	95	
cca acc atg cgg tgg ctg aaa aac ggg aag gag ttt aag cag gag cat			933
Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu Phe Lys Gln Glu His			
100	105	110	
cgc att gga ggc tac aag gta cga aac cag cac tgg agc ctc att atg			981
Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His Trp Ser Leu Ile Met			
115	120	125	
gaa agt gtg gtc cca tct gac aag gga aat tat acc tgt gtg gtg gag			1029
Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr Thr Cys Val Val Glu			
130	135	140	145
aat gaa tac ggg tcc atc aat cac acg tac cac ctg gat gtt gtg gag			1077
Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His Leu Asp Val Val Glu			
150	155	160	
cga tcg cct cac cgg ccc atc ctc caa gcc gga ctg ccg gca aat gcc			1125
Arg Ser Pro His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala			
165	170	175	
tcc aca gtg gtc gga gga gac gta gag ttt gtc tgc aag gtt tac agt			1173
Ser Thr Val Val Gly Gly Asp Val Glu Phe Val Cys Lys Val Tyr Ser			
180	185	190	
gat gcc cag ccc cac atc cag tgg atc aag cac gtg gaa aag aac ggc			1221
Asp Ala Gln Pro His Ile Gln Trp Ile Lys His Val Glu Lys Asn Gly			
195	200	205	
agt aaa tac ggg ccc gac ggg ctg ccc tac ctc aag gtt ctc aag cac			1269
Ser Lys Tyr Gly Pro Asp Gly Leu Pro Tyr Leu Lys Val Leu Lys His			

210	215	220	225	
tcg ggg ata aat agt tcc aat gca gaa gtg ctg gct ctg ttc aat gtg				1317
Ser Gly Ile Asn Ser Ser Asn Ala Glu Val Leu Ala Leu Phe Asn Val				
230		235	240	
acc gag gcg gat gct ggg gaa tat ata tgt aag gtc tcc aat tat ata				1365
Thr Glu Ala Asp Ala Gly Glu Tyr Ile Cys Lys Val Ser Asn Tyr Ile				
245	250		255	
ggg cag gcc aac cag tct gcc tgg ctc act gtc ctg cca aaa cag caa				1413
Gly Gln Ala Asn Gln Ser Ala Trp Leu Thr Val Leu Pro Lys Gln Gln				
260	265		270	
gcg cct gga aga gaa aag gag att aca gct tcc cca gac tac ctg gag				1461
Ala Pro Gly Arg Glu Lys Glu Ile Thr Ala Ser Pro Asp Tyr Leu Glu				
275	280		285	
ata gcc att tac tgc ata ggg gtc ttc tta atc gcc tgt atg gtg gta				1509
Ile Ala Ile Tyr Cys Ile Gly Val Phe Leu Ile Ala Cys Met Val Val				
290	295	300	305	
aca gtc atc ctg tgc cga atg aag aac acg acc aag aag cca gac ttc				1557
Thr Val Ile Leu Cys Arg Met Lys Asn Thr Thr Lys Lys Pro Asp Phe				
310	315		320	
agc agc cag ccg gct gtg cac aag ctg acc aaa cgt atc ccc ctg cgg				1605
Ser Ser Gln Pro Ala Val His Lys Leu Thr Lys Arg Ile Pro Leu Arg				
325	330		335	
aga cag gtt tcg gct gag tcc agc tcc tcc atg aac tcc aac acc ccg				1653
Arg Gln Val Ser Ala Glu Ser Ser Ser Ser Met Asn Ser Asn Thr Pro				
340	345		350	
ctg gtg agg ata aca aca cgc ctc tct tca acg gca gac acc ccc atg				1701
Leu Val Arg Ile Thr Thr Arg Leu Ser Ser Thr Ala Asp Thr Pro Met				
355	360		365	
ctg gca ggg gtc tcc gag tat gaa ctt cca gag gac cca aaa tgg gag				1749
Leu Ala Gly Val Ser Glu Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu				
370	375	380	385	
ttt cca aga gat aag ctg aca ctg ggc aag ccc ctg gga gaa ggt tgc				1797
Phe Pro Arg Asp Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys				

	390	395	400	
ttt ggg caa gtg gtc atg gcg gaa gca gtg gga att gac aaa gac aag				1845
Phe Gly Gln Val Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys				
	405	410	415	
ccc aag gag gcg gtc acc gtg gcc gtg aag atg ttg aaa gat gat gcc				1893
Pro Lys Glu Ala Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala				
	420	425	430	
aca gag aaa gac ctt tct gat ctg gtg tca gag atg gag atg atg aag				1941
Thr Glu Lys Asp Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys				
	435	440	445	
atg att ggg aaa cac aag aat atc ata aat ctt ctt gga gcc tgc aca				1989
Met Ile Gly Lys His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr				
	450	455	460	465
cag gat ggg cct ctc tat gtc ata gtt gag tat gcc tct aaa gcc aac				2037
Gln Asp Gly Pro Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn				
	470	475	480	
ctc cga gaa tac ctc cga gcc cgg agg cca ccc ggg atg gag tac tcc				2085
Leu Arg Glu Tyr Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser				
	485	490	495	
tat gac att aac cgt gtt cct gag gag cag atg acc ttc aag gac ttg				2133
Tyr Asp Ile Asn Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu				
	500	505	510	
gtg tca tgc acc tac cag ctg gcc aga ggc atg gag tac ttg gct tcc				2181
Val Ser Cys Thr Tyr Gln Leu Ala Arg Gly Met Glu Tyr Leu Ala Ser				
	515	520	525	
caa aaa tgt att cat cga gat tta gca gcc aga aat gtt ttg gta aca				2229
Gln Lys Cys Ile His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr				
	530	535	540	545
gaa aac aat gtg atg aaa ata gca gac ttt gga ctc gcc aga gat atc				2277
Glu Asn Asn Val Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile				
	550	555	560	
aac aat ata gac tat tac aaa aag acc acc aat ggg cgg ctt cca gtc				2325
Asn Asn Ile Asp Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val				

565	570	575	
aag tgg atg gct cca gaa gcc ctg ttt gat aga gta tac act cat cag			2373
Lys Trp Met Ala Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln			
580	585	590	
agt gat gtc tgg tcc ttc ggg gtg tta atg tgg gag atc ttc act tta			2421
Ser Asp Val Trp Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu			
595	600	605	
ggg ggc tgc ccc tac cca ggg att ccc gtg gag gaa ctt ttt aag ctg			2469
Gly Gly Ser Pro Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu			
610	615	620	625
ctg aag gaa gga cac aga atg gat aag cca gcc aac tgc acc aac gaa			2517
Leu Lys Glu Gly His Arg Met Asp Lys Pro Ala Asn Cys Thr Asn Glu			
630	635	640	
ctg tac atg atg atg agg gac tgt tgg cat gca gtg ccc tcc cag aga			2565
Leu Tyr Met Met Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg			
645	650	655	
cca acg ttc aag cag ttg gta gaa gac ttg gat cga att ccc ccc aac			2613
Pro Thr Phe Lys Gln Leu Val Glu Asp Leu Asp Arg Ile Pro Pro Asn			
660	665	670	
cct tcc ctt atg agc att ttt aga aaa tag tcttagccaa tgttctaaaa			2663
Pro Ser Leu Met Ser Ile Phe Arg Lys			
675	680		
tgctcataag gaaggggttg ggaattacc ttagacaca agctctaaga actctggata			2723
caacgggaac ttggatggat acagtctggg cctgctgggc cagatgttcc gagggcggcc			2783
cggaagcag cctgtcttgc acattgcaac tgactggctt aatctacggc aagagtcctt			2843
cagctccgtc acagagtact ctccaatgtg ttatagttat ccttaaagct cttcaattca			2903
aggaagtgtc tggcacgttt actcttctga ctggagggga ggtatgtcac ctggatgggt			2963
gttggggaga cctcagggga ctgagttagg tctttggctg ctgactgggtg atgtcgctga			3023
gg			3025

<210> 24  
 <211> 3244  
 <212> DNA  
 <213> Homo sapiens

<220>

<220>  
 <221> CDS  
 <222> (488)...(2605)

<400> 24  
 ccggccgcga gccccggggg ccccgaggcc gcagcttgcc tgcgcgtct gagccttcgc 60  
 aactcgcgag caaagtttgg tggaggcaac gccaagcctg agtcctttct tcctctcggt 120  
 ccccaaatcc gagggcagcc cgcgggcgtc atgcccgcgc tcctccgcag cctgggggtac 180  
 gcgtgaagcc cgggaggctt ggcgcggcg aagaccaag gaccactctt ctgcgtttgg 240  
 agttgctccc cccaaccccg ggctcgtcgc tttctccatc ccgaccacg cggggcgcg 300  
 ggacaacaca ggtcgcggag gagcgttgcc attcaagtga ctgcagcagc agcggcagcg 360  
 cctcggttcc tgagcccacc gcaggctgaa ggcattgcgc gtagtccatg cccgtagagg 420  
 aagtgtgcag atgggattaa cgtccacatg gagatatgga agaggaccgg ggattggtac 480  
 cgtaacc atg gtc agc tgg ggt cgt ttc atc tgc ctg gtc gtg gtc acc 529  
 Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr  
 1 5 10  
 atg gca acc ttg tcc ctg gcc cgg ccc tcc ttc agt tta gtt gag gat 577  
 Met Ala Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp  
 15 20 25 30  
 acc aca tta gag cca gaa gag cca cca acc aaa tac caa atc tct caa 625  
 Thr Thr Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln  
 35 40 45  
 cca gaa gtg tac gtg gct gcg cca ggg gag tcg cta gag gtg cgc tgc 673  
 Pro Glu Val Tyr Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg Cys  
 50 55 60

ctg ttg aaa gat gcc gcc gtg atc agt tgg act aag gat ggg gtg cac	721
Leu Leu Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His	
65 70 75	
ttg ggg ccc aac aat agg aca gtg ctt att ggg gag tac ttg cag ata	769
Leu Gly Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile	
80 85 90	
aag ggc gcc acg cct aga gac tcc ggc ctc tat gct tgt act gcc agt	817
Lys Gly Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ser	
95 100 105 110	
agg act gta gac agt gaa act tgg tac ttc atg gtg aat gtc aca gat	865
Arg Thr Val Asp Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr Asp	
115 120 125	
gcc atc tca tcc gga gat gat gag gat gac acc gat ggt gcg gaa gat	913
Ala Ile Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp	
130 135 140	
ttt gtc agt gag aac agt aac aac aag aga gca cca tac tgg acc aac	961
Phe Val Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn	
145 150 155	
aca gaa aag atg gaa aag cgg ctc cat gct gtg cct gcg gcc aac act	1009
Thr Glu Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn Thr	
160 165 170	
gtc aag ttt cgc tgc cca gcc ggg ggg aac cca atg cca acc atg cgg	1057
Val Lys Phe Arg Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met Arg	
175 180 185 190	
tgg ctg aaa aac ggg aag gag ttt aag cag gag cat cgc att gga ggc	1105
Trp Leu Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly Gly	
195 200 205	
tac aag gta cga aac cag cac tgg agc ctc att atg gaa agt gtg gtc	1153
Tyr Lys Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val	
210 215 220	
cca tct gac aag gga aat tat acc tgt gtg gtg gag aat gaa tac ggg	1201
Pro Ser Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr Gly	
225 230 235	



tcc atc aat cac acg tac cac ctg gat gtt gtg gag cga tcg cct cac 1249  
 Ser Ile Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His  
 240 245 250

cgg ccc atc ctc caa gcc gga ctg ccg gca aat gcc tcc aca gtg gtc 1297  
 Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val  
 255 260 265 270

gga gga gac gta gag ttt gtc tgc aag gtt tac agt gat gcc cag ccc 1345  
 Gly Gly Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro  
 275 280 285

cac atc cag tgg atc aag cac gtg gaa aag aac ggc agt aaa tac ggg 1393  
 His Ile Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly  
 290 295 300

ccc gac ggg ctg ccc tac ctc aag gtt ctc aag gtt tcg gct gag tcc 1441  
 Pro Asp Gly Leu Pro Tyr Leu Lys Val Leu Lys Val Ser Ala Glu Ser  
 305 310 315

agc tcc tcc atg aac tcc aac acc ccg ctg gtg agg ata aca aca cgc 1489  
 Ser Ser Ser Met Asn Ser Asn Thr Pro Leu Val Arg Ile Thr Thr Arg  
 320 325 330

ctc tct tca acg gca gac acc ccc atg ctg gca ggg gtc tcc gag tat 1537  
 Leu Ser Ser Thr Ala Asp Thr Pro Met Leu Ala Gly Val Ser Glu Tyr  
 335 340 345 350

gaa ctt cca gag gac cca aaa tgg gag ttt cca aga gat aag ctg aca 1585  
 Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe Pro Arg Asp Lys Leu Thr  
 355 360 365

ctg ggc aag ccc ctg gga gaa ggt tgc ttt ggg caa gtg gtc atg gcg 1633  
 Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln Val Val Met Ala  
 370 375 380

gaa gca gtg gga att gac aaa gac aag ccc aag gag gcg gtc acc gtg 1681  
 Glu Ala Val Gly Ile Asp Lys Asp Lys Pro Lys Glu Ala Val Thr Val  
 385 390 395

gcc gtg aag atg ttg aaa gat gat gcc aca gag aaa gac ctt tct gat 1729  
 Ala Val Lys Met Leu Lys Asp Asp Ala Thr Glu Lys Asp Leu Ser Asp  
 400 405 410

ctg gtg tca gag atg gag atg atg aag atg att ggg aaa cac aag aat 1777  
 Leu Val Ser Glu Met Glu Met Met Lys Met Ile Gly Lys His Lys Asn  
 415 420 425 430

atc ata aat ctt ctt gga gcc tgc aca cag gat ggg cct ctc tat gtc 1825  
 Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln Asp Gly Pro Leu Tyr Val  
 435 440 445

ata gtt gag tat gcc tct aaa ggc aac ctc cga gaa tac ctc cga gcc 1873  
 Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu Arg Glu Tyr Leu Arg Ala  
 450 455 460

cgg agg cca ccc ggg atg gag tac tcc tat gac att aac cgt gtt cct 1921  
 Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr Asp Ile Asn Arg Val Pro  
 465 470 475

gag gag cag atg acc ttc aag gac ttg gtg tca tgc acc tac cag ctg 1969  
 Glu Glu Gln Met Thr Phe Lys Asp Leu Val Ser Cys Thr Tyr Gln Leu  
 480 485 490

gcc aga ggc atg gag tac ttg gct tcc caa aaa tgt att cat cga gat 2017  
 Ala Arg Gly Met Glu Tyr Leu Ala Ser Gln Lys Cys Ile His Arg Asp  
 495 500 505 510

tta gca gcc aga aat gtt ttg gta aca gaa aac aat gtg atg aaa ata 2065  
 Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asn Asn Val Met Lys Ile  
 515 520 525

gca gac ttt gga ctc gcc aga gat atc aac aat ata gac tat tac aaa 2113  
 Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn Asn Ile Asp Tyr Tyr Lys  
 530 535 540

aag acc acc aat ggg cgg ctt cca gtc aag tgg atg gct cca gaa gcc 2161  
 Lys Thr Thr Asn Gly Arg Leu Pro Val Lys Trp Met Ala Pro Glu Ala  
 545 550 555

ctg ttt gat aga gta tac act cat cag agt gat gtc tgg tcc ttc ggg 2209  
 Leu Phe Asp Arg Val Tyr Thr His Gln Ser Asp Val Trp Ser Phe Gly  
 560 565 570

gtg tta atg tgg gag atc ttc act tta ggg ggc tcg ccc tac cca ggg 2257  
 Val Leu Met Trp Glu Ile Phe Thr Leu Gly Gly Ser Pro Tyr Pro Gly  
 575 580 585 590

att ccc gtg gag gaa ctt ttt aag ctg ctg aag gaa gga cac aga atg 2305  
 Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys Glu Gly His Arg Met  
 595 600 605

gat aag cca gcc aac tgc acc aac gaa ctg tac atg atg atg agg gac 2353  
 Asp Lys Pro Ala Asn Cys Thr Asn Glu Leu Tyr Met Met Met Arg Asp  
 610 615 620

tgt tgg cat gca gtg ccc tcc cag aga cca acg ttc aag cag ttg gta 2401  
 Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr Phe Lys Gln Leu Val  
 625 630 635

gaa gac ttg gat cga att ctc act ctc aca acc aat gag gaa tac ttg 2449  
 Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn Glu Glu Tyr Leu  
 640 645 650

gac ctc agc caa cct ctc gaa cag tat tca cct agt tac cct gac aca 2497  
 Asp Leu Ser Gln Pro Leu Glu Gln Tyr Ser Pro Ser Tyr Pro Asp Thr  
 655 660 665 670

aga agt tct tgt tct tca gga gat gat tct gtt ttt tct cca gac ccc 2545  
 Arg Ser Ser Cys Ser Ser Gly Asp Asp Ser Val Phe Ser Pro Asp Pro  
 675 680 685

atg cct tac gaa cca tgc ctt cct cag tat cca cac ata aac ggc agt 2593  
 Met Pro Tyr Glu Pro Cys Leu Pro Gln Tyr Pro His Ile Asn Gly Ser  
 690 695 700

gtt aaa aca tga atgactgtgt ctgcctgtcc ccaaacagga cagcactggg 2645  
 Val Lys Thr  
 705

aacctagcta cactgagcag ggagaccatg cctcccagag cttgttgtct ccacttgat 2705

atatggatca gaggagtaaa taattggaaa agtaatcagc atatgtgtaa agatttatac 2765

agttgaaaac ttgtaatctt cccagaggagg agaagaaggt ttctggagca gtggactgcc 2825

acaagccacc atgtaacccc tctcacctgc cgtgcgttct ggctgtggac cagtaggact 2885

caagggtggac gtgcgttctg ccttccttgt taattttgta ataattggag aagatttatg 2945

tcagcacaca cttacagagc acaaatgcag tatatagggtg ctggatgtat gtaaatatat 3005

tcaaattatg tataaatata tattatatat ttacaaggag ttatTTTTTg tattgatttt 3065  
aatggatgt cccaatgcac ctagaaaatt ggtctctctt tttttaatag ctatttgcta 3125  
aatgctgttc ttacacataa tttcttaatt ttcaccgagc agaggTggaa aaatactttt 3185  
gctttcaggg aaaatgggat aacgttaatt tattaataaa ttggtaatat acaaaacaa 3244

<210> 25

<211> 3080

<212> DNA

<213> Homo sapiens

<220>

<220>

<221> CDS

<222> (612) ... (3080)

<400> 25

catctgtgga ctgctaccga gcggggcagg gagcgcgcg cgccgccaca aagctcgggc 60  
gccgcggggc tgcattgcgc gtacctggcc cggcgcggcg actgctctcc gggctggcgg 120  
gggcccggcg cgagccccgg gggccccgag gccgcagctt gcctgcgcgc tctgagcctt 180  
cgcaactcgc gagcaaagtt tggTggaggc aacgccaagc ctgagtcctt tcttctcttc 240  
gttccccaaa tccgagggca gcccgcgggc gtcattgccc cgctcctccg cagcctgggg 300  
tacgcgtga agccccggag gcttggcgcc ggccaagacc caaggaccac tcttctgcgt 360  
ttggagtTgc tccccacaac cccgggctcg tcgctttctc catcccgacc cagccggggc 420  
gcgggggacaa cacaggtcgc ggaggagcgt tgccattcaa gtgactgcag cagcagcggc 480  
agcgctcgg ttcctgagcc caccgcaggc tgaaggcatt gcgcgtagtc catgcccgt 540  
gaggaagtgt gcagatggga ttaacgtcca catggagata tggaagagga ccggggattg 600  
gtaccgtaac c atg gtc agc tgg ggt cgt ttc atc tgc ctg gtc gtg gtc 650  
Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val

	1	5	10	
acc atg gca acc ttg tcc ctg gcc cgg ccc tcc ttc agt tta gtt gag				698
Thr Met Ala Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu				
15	20	25		
gat acc aca tta gag cca gaa gag cca cca acc aaa tac caa atc tct				746
Asp Thr Thr Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser				
30	35	40	45	
caa cca gaa gtg tac gtg gct gcg cca ggg gag tcg cta gag gtg cgc				794
Gln Pro Glu Val Tyr Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg				
50	55	60		
tgc ctg ttg aaa gat gcc gcc gtg atc agt tgg act aag gat ggg gtg				842
Cys Leu Leu Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val				
65	70	75		
cac ttg ggg ccc aac aat agg aca gtg ctt att ggg gag tac ttg cag				890
His Leu Gly Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln				
80	85	90		
ata aag ggc gcc acg cct aga gac tcc ggc ctc tat gct tgt act gcc				938
Ile Lys Gly Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala				
95	100	105		
agt agg act gta gac agt gaa act tgg tac ttc atg gtg aat gtc aca				986
Ser Arg Thr Val Asp Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr				
110	115	120	125	
gat gcc atc tca tcc gga gat gat gag gat gac acc gat ggt gcg gaa				1034
Asp Ala Ile Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu				
130	135	140		
gat ttt gtc agt gag aac agt aac aac aag aga gca cca tac tgg acc				1082
Asp Phe Val Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr				
145	150	155		
aac aca gaa aag atg gaa aag cgg ctc cat gct gtg cct gcg gcc aac				1130
Asn Thr Glu Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn				
160	165	170		
act gtc aag ttt cgc tgc cca gcc ggg ggg aac cca atg cca acc atg				1178
Thr Val Lys Phe Arg Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met				

175	180	185	
cgg tgg ctg aaa aac ggg aag gag ttt aag cag gag cat cgc att gga			1226
Arg Trp Leu Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly			
190	195	200	205
ggc tac aag gta cga aac cag cac tgg agc ctc att atg gaa agt gtg			1274
Gly Tyr Lys Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val			
	210	215	220
gtc cca tct gac aag gga aat tat acc tgt gtg gtg gag aat gaa tac			1322
Val Pro Ser Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr			
	225	230	235
ggg tcc atc aat cac acg tac cac ctg gat gtt gtg gag cga tcg cct			1370
Gly Ser Ile Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro			
	240	245	250
cac cgg ccc atc ctc caa gcc gga ctg ccg gca aat gcc tcc aca gtg			1418
His Arg Pro Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val			
	255	260	265
gtc gga gga gac gta gag ttt gtc tgc aag gtt tac agt gat gcc cag			1466
Val Gly Gly Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln			
	270	275	280
ccc cac atc cag tgg atc aag cac gtg gaa aag aac ggc agt aaa tac			1514
Pro His Ile Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr			
	290	295	300
ggg ccc gac ggg ctg ccc tac ctc aag gtt ctc aag cac tcg ggg ata			1562
Gly Pro Asp Gly Leu Pro Tyr Leu Lys Val Leu Lys His Ser Gly Ile			
	305	310	315
aat agt tcc aat gca gaa gtg ctg gct ctg ttc aat gtg acc gag gcg			1610
Asn Ser Ser Asn Ala Glu Val Leu Ala Leu Phe Asn Val Thr Glu Ala			
	320	325	330
gat gct ggg gaa tat ata tgt aag gtc tcc aat tat ata ggg cag gcc			1658
Asp Ala Gly Glu Tyr Ile Cys Lys Val Ser Asn Tyr Ile Gly Gln Ala			
	335	340	345
aac cag tct gcc tgg ctc act gtc ctg cca aaa cag caa gcg cct gga			1706
Asn Gln Ser Ala Trp Leu Thr Val Leu Pro Lys Gln Gln Ala Pro Gly			

350	355	360	365	
aga gaa aag gag att aca gct tcc cca gac tac ctg gag ata gcc att				1754
Arg Glu Lys Glu Ile Thr Ala Ser Pro Asp Tyr Leu Glu Ile Ala Ile				
370		375	380	
tac tgc ata ggg gtc ttc tta atc gcc tgt atg gtg gta aca gtc atc				1802
Tyr Cys Ile Gly Val Phe Leu Ile Ala Cys Met Val Val Thr Val Ile				
385		390	395	
ctg tgc cga atg aag aac acg acc aag aag cca gac ttc agc agc cag				1850
Leu Cys Arg Met Lys Asn Thr Thr Lys Lys Pro Asp Phe Ser Ser Gln				
400		405	410	
ccg gct gtg cac aag ctg acc aaa cgt atc ccc ctg cgg aga cag gta				1898
Pro Ala Val His Lys Leu Thr Lys Arg Ile Pro Leu Arg Arg Gln Val				
415		420	425	
aca gtt tcg gct gag tcc agc tcc tcc atg aac tcc aac acc ccg ctg				1946
Thr Val Ser Ala Glu Ser Ser Ser Ser Met Asn Ser Asn Thr Pro Leu				
430		435	440	445
gtg agg ata aca aca cgc ctc tct tca acg gca gac acc ccc atg ctg				1994
Val Arg Ile Thr Thr Arg Leu Ser Ser Thr Ala Asp Thr Pro Met Leu				
450		455	460	
gca ggg gtc tcc gag tat gaa ctt cca gag gac cca aaa tgg gag ttt				2042
Ala Gly Val Ser Glu Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe				
465		470	475	
cca aga gat aag ctg aca ctg ggc aag ccc ctg gga gaa ggt tgc ttt				2090
Pro Arg Asp Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe				
480		485	490	
ggg caa gtg gtc atg gcg gaa gca gtg gga att gac aaa gac aag ccc				2138
Gly Gln Val Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro				
495		500	505	
aag gag gcg gtc acc gtg gcc gtg aag atg ttg aaa gat gat gcc aca				2186
Lys Glu Ala Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr				
510		515	520	525
gag aaa gac ctt tct gat ctg gtg tca gag atg gag atg atg aag atg				2234
Glu Lys Asp Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met				

530	535	540	
att ggg aaa cac aag aat atc ata aat ctt ctt gga gcc tgc aca cag Ile Gly Lys His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln 545 550 555			2282
gat ggg cct ctc tat gtc ata gtt gag tat gcc tct aaa ggc aac ctc Asp Gly Pro Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu 560 565 570			2330
cga gaa tac ctc cga gcc cgg agg cca ccc ggg atg gag tac tcc tat Arg Glu Tyr Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr 575 580 585			2378
gac att aac cgt gtt cct gag gag cag atg acc ttc aag gac ttg gtg Asp Ile Asn Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val 590 595 600 605			2426
tca tgc acc tac cag ctg gcc aga ggc atg gag tac ttg gct tcc caa Ser Cys Thr Tyr Gln Leu Ala Arg Gly Met Glu Tyr Leu Ala Ser Gln 610 615 620			2474
aaa tgt att cat cga gat tta gca gcc aga aat gtt ttg gta aca gaa Lys Cys Ile His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu 625 630 635			2522
aac aat gtg atg aaa ata gca gac ttt gga ctc gcc aga gat atc aac Asn Asn Val Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn 640 645 650			2570
aat ata gac tat tac aaa aag acc acc aat ggg cgg ctt cca gtc aag Asn Ile Asp Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys 655 660 665			2618
tgg atg gct cca gaa gcc ctg ttt gat aga gta tac act cat cag agt Trp Met Ala Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser 670 675 680 685			2666
gat gtc tgg tcc ttc ggg gtg tta atg tgg gag atc ttc act tta ggg Asp Val Trp Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly 690 695 700			2714
ggc tcg ccc tac cca ggg att ccc gtg gag gaa ctt ttt aag ctg ctg Gly Ser Pro Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu			2762



705	710	715	
aag gaa gga cac aga atg gat aag cca gcc aac tgc acc aac gaa ctg			2810
Lys Glu Gly His Arg Met Asp Lys Pro Ala Asn Cys Thr Asn Glu Leu			
720	725	730	
tac atg atg atg agg gac tgt tgg cat gca gtg ccc tcc cag aga cca			2858
Tyr Met Met Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro			
735	740	745	
acg ttc aag cag ttg gta gaa gac ttg gat cga att ctc act ctc aca			2906
Thr Phe Lys Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr			
750	755	760	765
acc aat gag gaa tac ttg gac ctc agc caa cct ctc gaa cag tat tca			2954
Thr Asn Glu Glu Tyr Leu Asp Leu Ser Gln Pro Leu Glu Gln Tyr Ser			
770	775	780	
cct agt tac cct gac aca aga agt tct tgt tct tca gga gat gat tct			3002
Pro Ser Tyr Pro Asp Thr Arg Ser Ser Cys Ser Ser Gly Asp Asp Ser			
785	790	795	
gtt ttt tct cca gac ccc atg cct tac gaa cca tgc ctt cct cag tat			3050
Val Phe Ser Pro Asp Pro Met Pro Tyr Glu Pro Cys Leu Pro Gln Tyr			
800	805	810	
cca cac ata aac ggc agt gtt aaa aca tga			3080
Pro His Ile Asn Gly Ser Val Lys Thr			
815	820		

&lt;210&gt; 26

&lt;211&gt; 1541

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;220&gt;

&lt;221&gt; CDS

&lt;222&gt; (276)...(1040)

&lt;400&gt; 26

gacccaagga ccactcttct gcgtttggag ttgctcccca caaccccggg ctcgtcgctt 60

tctccatccc gacccacgcy gggcgcgggg acaacacagg tcgcgaggga gcgttgccat 120  
tcaagtgact gcagcagcag cggcagcgcc tcggttcctg agcccaccgc aggctgaagg 180  
cattgcgcgt agtccatgcc cgtagaggaa gtgtgcagat gggattaacg tccacatgga 240  
gatatggaag aggaccgggg attggtaccg taacc atg gtc agc tgg ggt cgt 293  
Met Val Ser Trp Gly Arg  
1 5  
ttc atc tgc ctg gtc gtg gtc acc atg gca acc ttg tcc ctg gcc cgg 341  
Phe Ile Cys Leu Val Val Val Thr Met Ala Thr Leu Ser Leu Ala Arg  
10 15 20  
ccc tcc ttc agt tta gtt gag gat acc aca tta gag cca gaa gag cca 389  
Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu Pro Glu Glu Pro  
25 30 35  
cca acc aaa tac caa atc tct caa cca gaa gtg tac gtg gct gcg cca 437  
Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr Val Ala Ala Pro  
40 45 50  
ggg gag tcg cta gag gtg cgc tgc ctg ttg aaa gat gcc gcc gtg atc 485  
Gly Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp Ala Ala Val Ile  
55 60 65 70  
agt tgg act aag gat ggg gtg cac ttg ggg ccc aac aat agg aca gtg 533  
Ser Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn Asn Arg Thr Val  
75 80 85  
ctt att ggg gag tac ttg cag ata aag ggc gcc acg cct aga gac tcc 581  
Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly Ala Thr Pro Arg Asp Ser  
90 95 100  
ggc ctc tat gct tgt act gcc agt agg act gta gac agt gaa act tgg 629  
Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp Ser Glu Thr Trp  
105 110 115  
tac ttc atg gtg aat gtc aca gat gcc atc tca tcc gga gat gat gag 677  
Tyr Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser Gly Asp Asp Glu  
120 125 130  
gat gac acc gat ggt gcg gaa gat ttt gtc agt gag aac agt aac aac 725

Asp Asp Thr Asp Gly Ala Glu Asp Phe Val Ser Glu Asn Ser Asn Asn  
 135 140 145 150

aag aga gca cca tac tgg acc aac aca gaa aag atg gaa aag cgg ctc 773  
 Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met Glu Lys Arg Leu  
 155 160 165

cat gct gtg cct gcg gcc aac act gtc aag ttt cgc tgc cca gcc ggg 821  
 His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg Cys Pro Ala Gly  
 170 175 180

ggg aac cca atg cca acc atg cgg tgg ctg aaa aac ggg aag gag ttt 869  
 Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn Gly Lys Glu Phe  
 185 190 195

aag cag gag cat cgc att gga ggc tac aag gta cga aac cag cac tgg 917  
 Lys Gln Glu His Arg Ile Gly Gly Tyr Lys Val Arg Asn Gln His Trp  
 200 205 210

agc ctc att atg gaa agt gtg gtc cca tct gac aag gga aat tat acc 965  
 Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys Gly Asn Tyr Thr  
 215 220 225 230

tgt gtg gtg gag aat gaa tac ggg tcc atc aat cac acg tac cac ctg 1013  
 Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His Thr Tyr His Leu  
 235 240 245

gat gtt gtg ggc agc cag ggt tta tga gctttgcatg atcctcatgg 1060  
 Asp Val Val Gly Ser Gln Gly Leu  
 250

ttccaagcg tcatctgtgt aaagtggacg tggatatgaaa tgtctgacat tttggaagct 1120

gagattactc tgaaaatggt aattgggcag gtgaaaaggg tacagatgtg ctgtagcaga 1180

cctttggttt taaaagagaa gcatcatttc cccaacaggg caactgtaga aggccagctg 1240

aagagtaaag gaaaaggctt gaggactgag cctgtggctg gctggaaaaa ggtgaatgtt 1300

gagggccctt cacttccatc acaagaaagt cattagacgg taccaattca gtgtctgttc 1360

ctggcatcta tttcctctgt gcaaaggga ccatgtatat gagcttataa atacattttt 1420

gtcagagtgc acagataagt aggccatttt aattaaacat tgaagaccct gtctcaaaaa 1480

aaaaaaaaa aaaagaaaag aaaagaataa agaaaaaacc cactactcca agacgtttag 1540

c 1541

<210> 27

<211> 1475

<212> DNA

<213> Homo sapiens

<400> 27

tcttctgcgt ttggagtgc tccccgcaac cccgggctcg tcgctttctc catccccgacc 60  
cacgcggggc cggggacaac acaggtcgcg gaggagcggt gccattcaag tgactgcagc 120  
agcagcgcag cgcctcggtt cctgagccca ccgcagctga aggcattgcg cgtagtccat 180  
gcccgtagag gaagtgtgca gatgggatta acgtccacat ggagatatgg aagaggaccg 240  
gggattggtg ccgtaaccat ggtcagctgg ggtcggttca tctgcctggt cgtgggcacc 300  
atggcaacct tgtccctggc ccggccctcc ttcagtttag ttgaggatac cacattagag 360  
ccagaagagc caccaaccaa ataccaaatc tctcaaccag aagtgtacgt ggctgcgcca 420  
ggggagtcgc tagaggtgcg ctgcctggtg aaagatgccg ccgtgatcag ttggactaag 480  
gatgggggtg acttggggcc caacaatagg acagtgccta ttggggagta cttgcagata 540  
aagggcgcca cacctagaga ctccggcctc tatgcttgta ctgccagtag gactgtagac 600  
agtgaaactt ggtacttcat ggtgaatgtc acagatgcc a tctcatccg agatgatgag 660  
gatgacaccg atggtgcgga agattttgtc agtgagaaca gtaacaacaa gagagcacca 720  
tactggacca acacagaaaa gatggaaaag cggctccatg ctgtgcctgc ggccaacact 780  
gtcaagtttc gctgcccagc cggggggaac ccaatgccaa ccatgcggtg gctgaaaaac 840  
gggaaggagt ttaagcagga gcatcgcat ggaggctaca aggtacgaaa ccagcactgg 900  
agcctcatta tggaaagtgt ggtcccatct gacaagggaa attatacctg tgtagtggag 960  
aatgaatacg ggtccatcaa tcacacgtac cacctggatg ttgtggagcg atcgccctac 1020  
cggcccatcc tccaagccg actgcgggca aatgcctcca cagtggtcg aggagacgta 1080  
gagtttgtct gcaaggttta cagtgatgcc cagccccaca tccagtggat caagcacgtg 1140  
gaaaagaacg gcagtaaaat cggggccgac gggctgccct acctcaagg tctcaagcac 1200  
tcggggataa atagtccaa tgcagaagt ctggctctgt tcaatgtgac cgaggcggat 1260  
gctgggggat atatatgtaa ggtctccaat tatatagggc aggccaaacca gtctgcctgg 1320  
ctcactgtcc tgccaaaaca gcaaggccgc cgggtttaac accacggaca aagagattga 1380  
ggttctctat attcggaatg taacttttga ggacgctggg gaatatacgt gcttggcggg 1440  
taattctatt gggatatect ttcactctgc atggt 1475

<210> 28

<211> 2650

<212> DNA

<213> Homo sapiens

<400> 28

ggaccgggga ttggtaccgt aaccatggtc agctggggtc gtttcactctg cctggctcgtg 60  
 gtcacccatgg caaccttggtc cctggccccg cctccttca gtttagttga ggataccaca 120  
 tttagagccag aagagccacc aaccaaatac caaatctctc aaccagaagt gtacgtggct 180  
 gcgccagggg agtcgctaga ggtgcgctgc ctgttgaaag atgccgccgt gatcagttgg 240  
 actaaggatg ggggtgcactt ggggcccaac aataggacag tgcttattgg ggagtaactg 300  
 cagataaagg gcgccacgcc tagagactcc ggccctctatg cttgtactgc cagtaggact 360  
 gtagacagtg aaacttggtg cttcatggtg aatgtcacag atgccatctc atccggagat 420  
 gatgaggatg acaccgatgg tgcggaagat tttgtcagtg agaacagtaa caacaagaga 480  
 gcaccatact ggaccaacac agaaaagatg gaaaagcggc tccatgctgt gcctgcggcc 540  
 aacactgtca agtttcgctg cccagccggg ggaacccaa tgccaacat gcggtggctg 600  
 aaaaacggga aggagttaa gcaggagcat cgcattggag gctacaagg acgaaaccag 660  
 cactggagcc tcattatgga aagtgtggtc ccatctgaca agggaaatta tacctgtgtg 720  
 gtggagaatg aatacgggtc catcaatcac acgtaccaçc tggatgttgt ggagcgatcg 780  
 cctcaccggc ccatcctcca agccggactg ccggcaaatg cctccacagt ggtcggagga 840  
 gacgtagagt ttgtctgcaa ggtttacagt gatgccagc cccacatcca gtggatcaag 900  
 cacgtggaag agaacggcag taaatacggg ccgacgggc tgccctacct caaggttctc 960  
 aagcactcgg ggataaatag ttccaatgca gaagtgtctg ctctgttcaa tgtgaccgag 1020  
 gcggatgcgg gggaatatat atgtaaggtc tccaattata tagggcagg caaccagtct 1080  
 gcctggctca ctgtcctgcc aaaacagcaa gcgcctggaa gagaaaagga gattacagct 1140  
 tccccagact acctggagat agccatttac tgcatagggg tcttcttaat cgctgtatg 1200  
 gtggtaacag tcatcctgtg ccgaatgaag aacacgacca agaagccaga cttcagcagc 1260  
 cagccggctg tgcacaagct gaccaaact atccccctgc ggagacaggt aacagttctg 1320  
 gctgagtcca gctcctccat gaactccaac accccgctgg tgaggataac aacacgcctc 1380  
 tcttcaacgg cagacacccc catgtggca ggggtctccg agtatgaact tccagaggac 1440  
 ccaaaatggg agtttcaag agataagctg aactgggca agccctggg agaaggttgc 1500  
 tttgggcaag tggatcatgg ggaagcagtg ggaattgaca aagacaagcc caaggaggcg 1560  
 gtcaccgtgg ccgtgaagat gttgaagat gatgccacag agaaagacct ttctgatctg 1620  
 gtgtcagaga tggagatgat gaagatgatt gggaaacaca agaatatcat aaatcttctt 1680  
 ggagcctgca cacaggatgg gcctctctat gtcatagtgt agtatgcctc taaaggcaac 1740  
 ctccgagaat acctccgagc ccggaggcca cccgggatgg agtactccta tgacattaac 1800  
 cgtgttctg aggagcagat gaccttcaag gacttggtgt catgcacctc ccagctggcc 1860  
 agaggcatgg agtacttggc ttcccaaaaa tgtattcatc gagatttagc agccagaaat 1920  
 gttttggtaa cagaaaacaa tgtgatgaaa atagcagact ttggactcgc cagagatata 1980  
 aacaatatag actattacaa aaagaccacc aatgggcggc ttccagtcaa gtggatggct 2040  
 ccagaagccc tgtttgatag agtatacact catcagagt atgtctggtc cttcgggggtg 2100  
 ttaatgtggg agatcttcac tttagggggc tcgccctacc cagggattcc cgtggaggaa 2160  
 ctttttaagc tgctgaagga aggacacaga atggataagc cagccaactg caccaacgaa 2220  
 ctgtacatga tgatgaggga ctgttgcat gcagtgccct ccagagacc aacgttcaag 2280  
 cagttgtag aagacttggg tcgaattctc actctcaca ccaatgagat ctgaaagttt 2340  
 atggcttcat tgagaaactg ggaaaagttg gtcaggcgca gtggctcatg cctgtaatcc 2400  
 cagcactttg ggaggccgag gcaggcggat catgaggtca ggagtccag accagcctgg 2460  
 ccaacatggt gaaacctgt ctctactaaa gatacaaaaa attagccggg cgtgttggtg 2520  
 tgcgcctgta atccagcta ctccgggagg ctgaggcagg agagtcactt gaaccgggga 2580  
 ggcggaggtt acagtgaacc gagatcatgc cattgcattc cagccttggc gacagagcga 2640

gactccatct

2650

&lt;210&gt; 29

&lt;211&gt; 36221

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;220&gt;

&lt;221&gt; misc\_feature

&lt;222&gt; (1)...(36221)

&lt;223&gt; n = A,T,C or G

&lt;400&gt; 29

acccccagac tattacagga ggagaagggt aagggtctgtg caaatgggtcc gaatctaata 60  
gggatgggat cgggggtgtgc atatcgggggt gttatgagag acaaaagatg gtttttggtc 120  
caccgttgtt agggggggag gtcatccgcg ggggaatcgg ttttccagaa tgatgaagtc 180  
accaggcctt caaagcccct tttgaagggt aaccaagcca ggtttttctt ctcctaaggg 240  
ttcggaaagt taccttggct cttcggaggg gagaaacgag tatgtacccc gaaattgagg 300  
acacttactg caagcctgcc gaacagagca agccccatt tctttagtta caacccaaag 360  
gggaatcaaa aagcaataa tctacaaaaa acgcctcagg gggaaaagac tgaagctct 420  
acatcagaat gctgaaaagg tctgtgagaa gctaaaagta gcttgtaggg tcaggaacac 480  
tgcctctggc atcagccacc tgagaactgc ttgatcttgg gaaaatcaca ttgctttctt 540  
ttttgtcttt atgaaatttt ctaaaactaag gatggattgt ttttagaatg agaaaaaac 600  
taataaaaaa actacaaata gtaaaagagg aagtgcacaga gaagcaaaag aagacacaat 660  
gggggcaataa aggagtttta atggcaacat ttctaccca aagtgcactg aggagaaaaa 720  
agaagtcatt gacttgcaca gccaaaacta ctagagggct ggcccagggc tcagcttggg 780  
gcagggtccc aatgggtgag ctcatgcccc attccctctg tctctcagat cactatctgg 840  
atttccccct gcagtagccc aggcctcact cagtccttc ccgcttcaca agctgtgaga 900  
gtttgccaga attcccccca gtgaaaattt catctcatct cattggttct agttgagtca 960  
catgctcatg tctcaaccaa tcaaagtgcc cagagaaaaa gcaacttggt gagtggttta 1020  
agcctggatc cctcaacctt cagaatcaag gatgaaatca gcttccccag aaccacgtgg 1080  
agtgacatta agtaaaagag tgattcccta atgggaacta ctgggtggca attaacaaaa 1140  
gatgctcttt gtccctgaag ggagggtggt ccacagctct gccagacgtt ttgggtgaat 1200  
ctctgcagca cccatgtcac tctgaagta gttttagggg tatttgtttt cagcccaca 1260  
gtagagggtg ctgtattggg ttgtgctgaa ccaagacctg accaggcagc aaatgactgg 1320  
tcctcaggac actgggacca caggcttatt gttaacatct ttcagtttgt gcttccagca 1380  
ttcacatca aaaggatttt ataaaatgcc ctttttaaac tttctgagac tattagtctg 1440  
agtattggga ggcacagaga cggcatccct gaggcagggg ttagggggat ggagatcttc 1500  
ttttctgtgt aactgaagtg cagtgatgtc ttttatgacc tccccaaaga caaaagatga 1560  
gtataacaat actcttgcca atttgctgga aagtttatcg tttttagttt cacagctgga 1620  
gatcctcagc ccatttcatt atccttgggc taaacagagt cctcatttta tggctgttgt 1680  
gaaactgtat tcttggaaca atgacaacct ctgactcctc taaagtcatg gccagttgaa 1740  
ctcccttggt tcattgggat tggcaataaa aacagggttg atactaagca gatacacctg 1800

ccgctcaggc atctctcagg tgccaaaaga tagactgatt gtgtggacca agctccatgc 1860  
 tctgggacga aggggaataga attgaattcc ctggggaggt tgaagcttca gggagtatag 1920  
 atcaataaaa cctcccttct gtgtaggctg tccttccatc tgacagtga atgatccagt 1980  
 tttcttgggc tatgaatatg gacagacctt tagccccacc ttagccaaca catgaaaaag 2040  
 tatataatcc tggcaggaac ccatatagaa gaagacacta gaccaggcca tctgcacctt 2100  
 gtcattttct taataaaatg ggatttcatt acctcgcccc tgtcagtatt tttatcttgc 2160  
 ctctgcctct ttacacttgg agggggttgc tgggttacct gaaaagagac tgtttttcaa 2220  
 agcaaaaatac tgcattacta ttactaatat cactattagt aatagtaatg tgtccggaat 2280  
 tgggtgggtc ttggtctcac tgacttcaag aatgaagccg cggacctctg ccgtgactgt 2340  
 tacagctctt aagggtggcac gtcttgagtc tgtcccttct gatgttcaga tgtgttcgga 2400  
 gtttcttctt tctggtgggt tctgtgtctc gctgggctca ggaatgaaac tgcagacctt 2460  
 cgcagtgagt gttacagctc ttaaggcagc gcactctggag ttgttcgttc ctcccagtgg 2520  
 gctcgtggtc tcgctgggct caggagtga gctgcagatc tttgcagtga gtgttatagt 2580  
 tcacaaaagc agcgtggacc caaagagtga gcagtagcaa gatttattgc aaagagcgaa 2640  
 agaacaaagc ctccactgtg tgcaagggga cccgagctga ttgccaatgc tgacctgggc 2700  
 agcctgcttt tattctctta tctggcccca ccacatcct gctgattggt agagcccagt 2760  
 ggctgtttt gtcagggcgc tgactggtgc gtttacaatc cctgagctag atacaaaggt 2820  
 tctccaagtc cccatcagat tagttagata cagagttttg acacacaggt tctccaagtc 2880  
 cccaccagag cagctagata cagagtgtcg attggtgcat tcacaaacct tgagctaaac 2940  
 acaggggtgt gattggtgtg tttacaaacc ttgagctaga tacagagtgc cgattggtgt 3000  
 atttacaatc cctgagctag acataaaggt tctccacgtc cccaccagag cagctagata 3060  
 cagagtgtcg attggtgcac tcacaaacct tgagctaaac acaggggtgt gattggtgta 3120  
 tttacaatcc ctgagctaga cataaagggt ttccaaggcc ccaccagagc agctagatac 3180  
 agtgtcgatt ggtgcactca caaaccttga gctaaacaca ggggtgctgat tgggtgtgtt 3240  
 acaaaccttg agctagatac agagtgccga ttggtgtatt tacaatccct gagctagaca 3300  
 taaaggttct ccacatcccc accagagcag ctagatacag agtgtggatt ggtgcattca 3360  
 caaaccttga gctaaacaca ggggtgctgat tgggtgattt acaatccctg agctagatat 3420  
 aaagactctc cacgtcccca ccagactcag gagcccagct ggcttcacct agtggatccc 3480  
 aactggggc tgcaggtaga gctgcctgcc agtcctgtgc cgtgcactcg cattcctcag 3540  
 cccttggtg atcgatggga ctgagcacca tggagcaggg ggtggtgctc gttggggagg 3600  
 ctcgggctgc acaggagccc atggaggggg tgggagactc aggcattggc ggctgcaggt 3660  
 cccgagccct gccccgcggg aaggcagcta aggctcggtg agaaatcgag ctacgcgccg 3720  
 atgggctggc actgctgggg gacccagtac accctccgca gccgctggcc cgggtgctaa 3780  
 gtccctcatt gccccgggccc agcagggtcg gccggctgct ccgagtgcgg ggctgcca 3840  
 gcccacgccc acccggaact ccagctggcc cgcaagtgcc gcaggcagcc cccgttccc 3900  
 ctcacgcctc tccctccaca cctccctgca agctgagggg gtgggctcca gccttgcca 3960  
 gcccagaaaa aggtcccac agtgagctgg gggggggggg gggctgaagg gctcctcaa 4020  
 tgccacaaaa gtgggagccc aggcagggga ggtgccgaga gcaagcgagg gctctgagga 4080  
 ctgccagcac gctgtcacct ctcagtaata gcacagcccc atccttgctg tacattgtgtg 4140  
 acattatctt gactcctcac aataactctc caaggtaggt ctcatagtca ccattttaa 4200  
 tgggaggaaa ttaaggctat gtcttgttag gtaatttacc cagttcatac agttctatgt 4260  
 gatagaactg gagtgtgaa actaagcctg acaatgccaa atactttgtt tcttctctc 4320  
 attatcaata gctgactaaa atgtaatttt gtcaacctga tcttgaaaaa atttagcctg 4380  
 attttatttt tatctgttat tcctaaatta agcagcctca gtggcattac aagccgaatc 4440

cttgaggatga ctgggtcacca gaaggaatcc agccttctcc atgcataatc actctacagc 4500  
agccttccag acccatccat gggaatcctt ttcttgagggt ctggggcaaaa ccactccaag 4560  
aacaaacccc ccaatctcca tcagagcttc tctgccccgt atttgcttga cccctcagtt 4620  
cagcagtgat gatgaccagg gcaagtcaaa tctatgtctg agcctgtggc ctgaccccat 4680  
tgtttgact tatccgatgt gaaatgctag tacttgcttt gcaattttac attttgatgc 4740  
aagtgaagg tttgaaccag ctgtttaaaa aaacaaatag ctttaaacc cttgtaaag 4800  
tgatgacctc atgtaggaaa actggttggg ctctgccct aggaggggct gggggtagg 4860  
tccccataga caagctgctc cttgtgaacc actcagaagc tggctcttgc tcagcggtg 4920  
tggatgagcc atgagagcca catctgtttt taaatcttca agatgaatgg agtgaattt 4980  
tctattcttt aatgtggag aagaaaagaa caaacgctt cctgtcagtg aagtctctgtg 5040  
tttctaagtg gggtaacttc ttttttattg aacgaaagct tttcaagaag cattccaag 5100  
aggatatacc agaactctgga actggcatat gaaaaatca cctctaggga acaattcata 5160  
aaaccaccaa ttactccgtg gactcctttt ggctctgtcc ttgctttaga tgataggtag 5220  
attctcacac ccctgagctc ctgagaaaag caggagggat ccctttgtgc cctcgtttat 5280  
acctgtctag aggttaagca tagatgatac actgtcacct cactggaaca ttttaaactt 5340  
gaaaaaaaaa aaaaagagaa agaaaacctt ttaaaattgt caacattccc acagtaattg 5400  
agttttctaa attcattcaa tagctagttt attcatttaa tcaaccattt tttagtccc 5460  
tactatatgc caaatgtgc tgtagggtga agagttgaag atataagatc cattacaatc 5520  
atccccctca tcctcaggaa tacatgccc gacccccggg ggatgcctga aatcacagac 5580  
agcaccgaat cttatatata caccacattc ttctctaca ttcatactca tgatagctta 5640  
atttataaat taggcaaagt aagaaactgg caacaataat aagaataatt gtaagtacac 5700  
tttaataaat gctctgtgaa tgtagtctct ctccctctca gagtatctta ttgtaagtga 5760  
cctactgtc ttgtgagatg ataaaaagcc tacatgataa gataaagtga tagggctggg 5820  
cgtgtgggt catgcctgta atcccagcac tttgggaggc cgagggtggg ggatcacctg 5880  
agatcaggag tttagacca gcctggccaa catggtgaaa ccccatctct tctgaaaata 5940  
gaaaaaattag ccaagcgtgg tggctgggtgc ctgtaattgc agctacttgg gatgctgaga 6000  
cagaagaatc actggaaccc aggaggtgga ggttgcagtg agccgagtc gaacagcatg 6060  
cactttaag cttatgaatt gcttatttct ggaattttcc acttagtatt ttcagaccat 6120  
ggttgactgc aggttaactga aaccatggaa agcaaaacca cagatagagg gactactata 6180  
cctgtactca agtcgacagt ctagcagaag aggaagagaa atagataact tgaagtccat 6240  
gtggctcagct atgctcagga cactggggga taggcctggg ggtaaggag gaagtgatga 6300  
ccaaagatgg cttcctgtaa gaagaaaccc caatctgagc ttgtaaggac acgatgggg 6360  
tagcaaaacg ttttaagacag aagaagcagc ctgtacaaag gtggaggagt gagacaggag 6420  
ataggagatg tattgcaggg gctgtggggg ccagggcacg atgctggttt atgatagtgt 6480  
tatccctgtg ataagtccca cacttttggg ccatgggagc atctcagcac tgggaggcat 6540  
ctgtgcatgt gtctctcat agctgtagac tctctgaaga tgtctctatg gatgtggaca 6600  
ctcttcccc gcatgttatg actgtctgtt tcacacttcc caagcacat gcacacacat 6660  
gcaggcttcc acacagaaat ttcaaacaga ttgttattta atgactacag tcattcatcc 6720  
aaacctacac tactgggttg gtgtttggtc tgtcttatct ccatttatag cacagagaaa 6780  
ggtatcatca accagccttc aagatgtcat ctgagaggcc tccccctac tggtagggaa 6840  
ccccccgccc caacacctct ctacacttcc tccccctcag aacttctgccc tgtttaactc 6900  
tttctctcta acaatgtccc cacatccctt cttattctgg ctactctcac cctcaggcaa 6960  
aagtcagcaa gtggcttgtc cttttggcac tcacagctc cctggatcag tgttgagtga 7020  
agaaagccct tccctctca gccagtgaa ggaagggaga gctttgggtc aggaagctgt 7080



gtgtggctgg tgaagatgat catttactcc tggttgtgct tttcctgatt tttcctttgg 7140  
 tgccctcttac tatctctgga aaataaaaaa acacacaact tacgccagga gcatgagatc 7200  
 tctgccaaga agccctgttg aatcctttga gagtcacaat ctctccgagt aattctgaac 7260  
 ttatttggtcc agacatggat ttatccctct actcatcttc atcttctttg tgaagccccc 7320  
 ttccattcat gccaccctaa tgggaagtgc cagtcattct ttcttaattc tccctgattg 7380  
 gagggaagaa gcgttgtcca atcacacacc aaacaaaatt agtaattcta aggggttcca 7440  
 tgcataaata cctgctagggt gctaaccaca ggggttcaatt ttgttcatta ctcaagtggc 7500  
 agcacgggtg cgggcacaca caagttcttc actaaagcga agttcttcaa taaagaaatg 7560  
 attcccaaca ctcaaatga acctggaagt taggtatgat tatttccaat ttataaatga 7620  
 gaaggctaag gctcagaag attaccatag tcatttagct gataaatggt agtttggttc 7680  
 ctaacaaagg tctttctggc cccaaagctc atgctttttc cagaaacca tgaagtcac 7740  
 cacctgccaa ctcaataat atagtctatt atgtcaataa agattaaccc ttacatgga 7800  
 cacttaactg caatggtctt ggtgctgcat aacgaagctg tggacttggg caactcttca 7860  
 tgaccaact tgctacttct gagttgcctc cctctctaga gtttgtctcc ttcagcctat 7920  
 tcaatgcagc acctattcat tcattcattc attcattcat tcattccaca aattttctgg 7980  
 aagtatctac catatgctag atgctagaga tacaaaaatg agtccaacag ctctgcctt 8040  
 caaggacact agaattcacc acagtatatt agtcgcctat gtgactacct taaggacaga 8100  
 gagagttgta tgatttttgt ggttggttcc agtcccaac agaagacctg gctgatgaga 8160  
 ggccctcagt aagtgttggc tgtattggat tgatatgggt tctaattgta tgatgagtgt 8220  
 tatataaaa gctatgttcc atgagccaca ggcatctttt tggggacatg catattaatt 8280  
 atttttttca gatcattgag ctgtcattca ataaatgaca caactgcctt aatatagaaa 8340  
 attgctagag gagctagatt tattttcttt cctcacacta agaagcaatt gtagtaattc 8400  
 cttatgcaat aaaccagtaa gaactaattt aatttaaaaa aattttttaa actggattac 8460  
 acacaaatat ggtagaaagt tttaaaaact tacaaaagga tataacatta aaaataagtc 8520  
 tcccacttct ggccctaggc acccagcttt catccttaga atgcacggct attaccagat 8580  
 ttcttgaaata ttattccaga gatcttctgt aggcacacaa gaataaatat gtgtacttct 8640  
 atgcatgtct gcacacactg cccccacac aagttggtat acttcgcaca atgttctaga 8700  
 ctttgctttg ttcatttaat gctgtgccct aaagacctt tcagtgtatg acatagatat 8760  
 tattctcatt tttaaatgac tggtatagcg attgtaccat cttatccatt cttcatttaa 8820  
 ggtacattca ggtgttttcc aaatgtttgt tttattacta acaaagccac agtaaatctc 8880  
 cttatccata tatcattttg cactctaaca gctgtgagat aaattcccag atgcaaaatg 8940  
 taaataaatt tatttcactt ttaaaattta aatttaaaat gtattattat aataaataaa 9000  
 attgaataca tccccagaag tgctggccaa aggatatatg cattttaaga taaataagat 9060  
 gcatttaacy taaatgacat agcctaattg ctctacacag cagttgtgct aatttgcact 9120  
 cctatagcaa tgcatgacag aaattttctc ctatggtcaa gacgactgac ttaccaaat 9180  
 tttttgatct atgctaactc cattgcaatt ttcattgtcc tttatcttat tatgagatct 9240  
 tatttacttc ttaatagtcc agtttaattg taagaaacca taattcctgt catgtcaaaag 9300  
 gaactgcat cataaatttt gagtttatct gaactactgt tcaccagaag ttaaaaaataa 9360  
 cagtggtatt agttacattt ttatatcact gccaatctca aagtgaactt gagataactt 9420  
 aataaacaca caaaacaatg agagagatag aaacaacatt tttaaaatca agacaacaga 9480  
 aagttagagg aaaaatgtaa aatgaagtaa gagggaagtt tagtgaaaca aaatgcata 9540  
 cttcaggctc aaaaatctac taatttttgt ccactgtttt ggccctaagc ttcttagagg 9600  
 tcaaagcaaa aaggaaaatg taatcaattt taaaatgtac attgttaaag aaaagaaaa 9660  
 caaaagattt ttggctttta aatctaaggg aaattcataa ggtttattgc agaaggggact 9720

ccagatagta tctcaacaag attcctaataa tgaaagaaaa agtaggggtt ttggagaaca 9780  
aagctctgac gctgtctatg tagaatgctt tcttagggcc ctttgtctgg taagagctcc 9840  
ccttttcttc cgaggaccaa ctctctgact cttcatagtc ctggtaggga tatcaatgac 9900  
catgccctat tcttccacc ttgaatactg ctgtacaaca aaccacacca aatgacagag 9960  
gctacagggc agtcctttag ctctgtcatc tacaggtaga tcattctgtc tgagcttggc 10020  
ctcacagttc tattcttggc tgggttctct cccaatccag gggctgtctg gccattgcag 10080  
gggcatttgg gtatcttggc cctgtccac aggtccctca gccttttaga tgctggcctg 10140  
gcatgttctg atggtatggc acagctcccg gagtagaagc agaggtaga agatgccttt 10200  
ttcaacctcg gtttgtgtca tatctattaa tgtctgatgg accagatgaa tcacatagcc 10260  
acactcagaa tgaaaagggt gagaggtaga tttgtgggag gattgcaaaa tcacatggaa 10320  
aaggctgtgg gtaagggag tgtgagtgcc acaactcatc acaggggaca gtgatctagg 10380  
cttagaaaagt ggggaggaag tgcactttcc actgggttgc ccaactgaga cttcggggag 10440  
ccatgttttt cactacttgc tgcaggaggg aatgggtatt caaaaagaag aggagagggg 10500  
tggatcagac acatgcagaa agaaagagcc cgtgtctata agtccctga agctcttcca 10560  
gtgtgtctgc aggtcactcc agtaccctcc ccagccctg agctagtact ttttctgtt 10620  
tgctatatca ggcggctact aagagtgaat gctgcagcca gtctacctgg gtacaaattc 10680  
cagctgtggc tgaataactg tgtggcttgg aggcaagttg cctcatttct ttgtgcctca 10740  
gttttttcat ctataagatg gggataatga taactctacc tctcagagct gttgtgaaga 10800  
tcgaatata tgatattggg aaggacttag aacagtgccct ggcatatatt aataaatgtg 10860  
tggtaattat ttttctgctga cattagtttg aattgtgtcc ctgtcaatag attggatttc 10920  
gtgggtggca tctcaggtgg atttgatgga aagacaaagc tgtctctcat gggagctggg 10980  
ctcctacttt caccctaaagg cactgaactg catcccaatt gccaaatcta ccaaccaaga 11040  
aaaaataaac ccaatacctt ccacgggaat taccctaact tgtgactggc ctggtagtg 11100  
tgtcatttat agagtcacca taaccacaga acgtggtaca tgcccgaat cttcggggac 11160  
cttagtgctc ccctccaga tatagagcga ggtttgcctg agtccaggac ctggccgagt 11220  
gggccagatt gctgtgtggg tttatggaac agagtgtgat gataatgggc ttctagattc 11280  
tttcggtgca gactccacct ccctgcctgc agccaatagc gagecctgac aggaataca 11340  
aagccgctga cagccccaga cttgtccgca ccaccatcag ggctctgagc agccgagctg 11400  
gagccccctc tccctccagg tcggccatcc ggctgggtcg gctcagtcac cagcagttta 11460  
cagtttggct gactacagcc tgactccaca aggggaataa agcccagcat tgtgctgggc 11520  
ttgcaacatc tttcccgctc cagagttcct gatgtgtttg ttacacagga tctggtctga 11580  
atgtttcctt tgtcgcagac cttcacgtgc tgagggtgggt ctgccttctc cgcggcagtc 11640  
ctgggttaaa taaatacatt aaggcaacat acacggcttg aactggagc cagcctcaat 11700  
aactcaataa attcatgtgg caaaagatgg agcctctgtg gttttgaatt catttaaaga 11760  
tggatttctt tgttcaactc ctttctcga ggagaacaca aactgggaag gggccgccat 11820  
gctccaactc agctggccat ttttctccag caagtctgtt tgagagtttc taaatcccg 11880  
gcagatgaac acagaacatg accttcagcc agttatagga taccatgctg acatcaccac 11940  
ataaatatac actcccaga aagctgtgat taagctccgc gcagattttt atcacttttc 12000  
cagtgcaccg gcaggctgct tgttcgcat gcacctttac aaaactcata atatttagaa 12060  
atgtgtctgt ttagccccag aggcctaaat aaactaaagc ctgtgaaggt tttaatgtaa 12120  
caagtacctc tcacatgtga aattacgagt ctacatgata ctcaataagg ccaacattgt 12180  
acacactctg ttcttttggg atcttatgta catttatcct gacatatctg tttcagtttt 12240  
ttaagaacgg aaaaattttc tatttcaata ccaccataca tgttcatgac actaaagaat 12300  
gagtgcagatt gtatatttaa agaaattcag agtctccgcc ggggtgctatg gctcatgcct 12360

ataatcccag cactttggga ggctgaggtg ggcgcacac aaggtcagga gtttaagacc 12420  
agcctggcca acatgggtgaa acctcgtctc tactaaaaat accaaaatta gctgggcatg 12480  
gtgatgggtg cctataatcc cagctacttg ggaggtgag gcaggagaat tgcttgaact 12540  
cgggaggccg agattgcagt gagccgagat cgtgccatgc actccagcct gagtgcagaga 12600  
gcaagagtac atctcgga aaacaaacaa acgaaatatt cagaatctct actcaaggag 12660  
tttgtgcttt aaggccaaca caaggatggg tgggaggggtg ctgtcattgt aatctcctat 12720  
aaaatcacca agttttcatt ttcttttctt ttcttttttt tgagacagag tctctctgtc 12780  
gcccaggctg gagtgctgtg gcacaatctc agctcactgc tcaactgcaac ctgggcttcc 12840  
cgggttcaag cgattctccc acctcagcct cctgaatagc tgggattata ggcatgtgcc 12900  
accatgcccc gctaattttt gtacttttag tagagacagg gtttcacat gttggtcagg 12960  
ctggtctcaa actcctgacc tcttgatcca cccgcctcgg cctcccaaag tgctgggatt 13020  
acagggtgta gccatcatgc cgggccttca ttacttttta aaagtgcaga taaaagattt 13080  
gttttatgag tatagcagag attctcaact gagacaattt tgccccccag gggacactta 13140  
gcaatgccta gagataattt ttggttggtta caactggaga agcagggtac tattggcatc 13200  
tagagggtag aaatcatgat gccaatatct atgtatgtat ccttccatc acaggacagc 13260  
cccctcaac aaagaattgc tcattccaaa atgccaacag taccatgctt cagaaacctt 13320  
aaggtagcag acatttggga ggaggggttg ggacagcata tgttctaaca ggctggatga 13380  
ctgtaaaact tttaagggtg tatgcaaaaa ctaaccttgc ctctagtcata atttactggc 13440  
tgctaaacat tgtttcaaaa ttctgactct ccatttatcc taagcacatt gctataaaat 13500  
gccttatgta tgaggcttgc ctggcccaaa atctaaccag ggctgctcaa gttttctctt 13560  
tttaaaagag aaaaataaaa aacttttctt tttaactttg aaatgatgtt aaactaaaca 13620  
tgtagtttct aacatagtag acagtacctt caccctgctt tccccagtg acagcatctt 13680  
acataactat agtataatat caaaaccaga aaactgatat tggtagtata ctattaaact 13740  
acaatctgat ttggacttta ctactttgct caagttttta ataataaaac attttaaatt 13800  
ttattttctc caaaatattc aactttattc ttgtagaaat gcttaccatg aaaaacaaaa 13860  
caatgatgat ctttctgctt ctaaatgatc ctcatgcca aggtgctacc cgttgcgaga 13920  
aaagaagatg accggtggaa ataattggct tctagtttta ttaatcagtc tctaccctct 13980  
tcaaaacaaa gactcccatg atattttctg gctgtcagtg ccttcttgtt gttgttgttg 14040  
ttttgatcgg ttacatgtc cttcaaaggc tcaagtattg aacattagga ccaaaggtaa 14100  
caaatttctc aaccttcacc cccacacccc tcaccccgac actacagcct cctggaagca 14160  
ctctgcagaa ctccctgccc aatatatata tatatgtgtg tgtgtgtgtg tgtttactgg 14220  
gtttacaccg tcggtgcccc tgtttttcag gccttcagat tcagactagt actattgtat 14280  
tatagtacca agagcagaag ataaatgaga tgtcctagcc atatgtgtat gttgtgtgtat 14340  
atatatacat atataacaa aaactatata tatacacaca cacatatata taaaaaact 14400  
gtatatatat atatacacac aaaaaaatat atatatatat ataaactata tatatagttt 14460  
ttggatgttt ttaagggaat cttttacaaa tacaatgga tggcctgct gcagaccac 14520  
ccgagggaag gtggaaggt gttgtcttta ctgccgcaca gctattaaga ccttcagggtg 14580  
taatgatcgg gataagatac atgctgcttc taccttcagc atccttcaag agcataggag 14640  
aggaggcatt gtgaggacct gggccccaag tgggattcct tatgttggtc taacctcaga 14700  
aagaaaaata cactcaaaga cagccagaaa aagccctagc agaggggctt tagcgtggac 14760  
tttttagaca ccatctgaga aggtcggcat tcagtgggaag agaaagcctc agaccatgga 14820  
gaactgagtt caagggttggt tcctgccact ttctggctat gaagccttgg agaaggcact 14880  
gaactaagct tggtttctct atcaataaaa cagtgcact ggtatcaatc ccggtaaaata 14940  
cagaaggtgg tgtgacggtc gctgacctgc ttcattggaa ggtgtctttt ataataggag 15000

aaatgaaaa aatagggtgt cctcatatag tgaaagtaaa tagagctaca gccacacaca 15060  
tcaacatgaa gaaacctgc aaatacaaat aatacaatgt attaatacaga tttctccatg 15120  
gaacaagga aagagaacca atgtgttata tacatatata atatattgat gtaataattac 15180  
atatattgat ataatatata tgtatgtaat attacatatg tgtattatat atgtaattatt 15240  
acatatatat aacatatattg tctctttatt aatacatata ttgtattata tatatgctat 15300  
gtaatatata attacataat tatataatat atacatgtat aattacatac ctacataata 15360  
catatatgca ttacatacat atatatata tagcatatac acacatacat ataatatata 15420  
tgtattacat atgtatatc atatatgtg tgtgtgtgta tgtgtgtgtc tgtgtgtgtg 15480  
tgtataaaat gtattatgag aaattgactc acacaattat ggaggctgag aagtcctatg 15540  
aaccactgat atgtttgget gtgtcctcac ccaaatctca tcttgaattg tagctaccat 15600  
aattcccatg tgctgtgggt gagaccagtg gggagataac tgaatcatgg ggggtggttc 15660  
accaatactg ttctcatagt agtgaataag tctcatgaga tctgatggtt ttataaggcg 15720  
tttcccttt cacttggtc tcatctctc ttgcctgcc ccatgtaaga tgtgactttt 15780  
gccttctgtc atgattgtga ggcctccca gccaggtgga actgtgagtc cagtaaactc 15840  
gtttttcttt ataaatccc agtcttgggt atgtcttcat cagcagcatg agaacagact 15900  
aatacagcta ccatctgcaa gctggagacc cagggggaaa aaaaagagtg gtataatata 15960  
agtctgaatc tgaaggcctg agaactgggg gagctgatgg tgtaaacccc actcccagag 16020  
cagaagatga gatgagatgt ctagcttaa gcagtgaggc aggggaaaa aggaggagca 16080  
aatttctctt tctctctctt ttgtttctat ccaggctctc aacagattag atgatgacca 16140  
ccagctctgg ggagggcagt ctgttttact gagtcccca atgtaaatgc tcatctcatc 16200  
tggaacaatc ctcacagaca cactcagaaa taatgtttaa ccagccatct gggcatcctt 16260  
catccagtca agttgacaca taaaattaac tatcacatac aacgttgggc aaaaaagtt 16320  
gtaaaagaac acataaggta tgatatacca ttcatacaaa catataaaac catactatat 16380  
gtatagcgta aggatataca ttgatgtagt gaaagtagaa agcaatgcat gagaatgata 16440  
agaatccagt tcaggttaag agttacctct ggaaaagggg gagggcaggg aaggagattg 16500  
aggaaggat acatgatgga tttaactgtg ctggcaatat ttatttctta acctggagg 16560  
gtgcctatgt gagatgcctt ccattattct tgatagattc tttaaatgtc tttaattatt 16620  
ctaaatgctc aagttttttt ttaattgtca tcattgttga cagaggcctt gagtgtggaa 16680  
tacagtgtgt ggggtgagaa catggggctg gcctgaatga gaactccatc acatttttac 16740  
cctgggcaat tgcttaaaac tggcctatgc cttagggttc tcatttgtca agagcaccta 16800  
cttcataata tgacttggga ggcttaaaac agataatgtt taaagctcac tcaccaccat 16860  
gcttgatgca taatcacctc tcaagaaacg ttagatttta gctactgcac agtacatgag 16920  
attacctgat catcatgata actcatcgat tgacaatgga gtaaacactgt gtacaaataa 16980  
tatagatgct tccatcttct gctaattgta acgtaattatt tagggcatag aataatgtta 17040  
ttattccaac ctcagattta tgagccagaa ccttacttga ctaacttagg tcaactccgct 17100  
gaaatatctt gtggggagat agttgaatct ttgtttggat tcttgccagt ggccataaaa 17160  
attctttgcc actcagtaag gttatgtgtt atagccatgt aggaactctg gatatacaga 17220  
ctttcacttt ttggctgtgc caggtaaac taaatttaag ataccttcag tggttttaag 17280  
atttatggca tcaaaattca acctcctggc ccagggcca tgcaagctat gtttcttacc 17340  
tctatataat gttaccctcg gttagccaact cacaagcaa ggtgcctgga atgatgttag 17400  
cttcaatgcc aaaaatcag tgaatggaa aagaccttaa taactgtaag ccacatatata 17460  
gtctctatat tctccagcat ttgagccaat gtggagatat ttccctttgc cctgttacct 17520  
tcaagtaatc ttgttaaaat ctgagagagc cttgtctatc taaaacagcc ctgtcctctg 17580  
gagttgacc accaattgct gggctttctc cttaacaaac agagcagagc agagtggatt 17640

acaacatgaa gcctcaagtg accaaagaaa ggtaaatgtc acctaccctt gccatctgca 17700  
aggctagaca tccccattt aatctgtttt aagaatgaaa gcgtctgtct attcttaaac 17760  
agcacagtcc tccagcctt ttcttgggcc tataaatgta ctttttacat gtaggctgt 17820  
gaagtagggc cttgttgatt caacatctgg aactactcag gtggtttgtc tctgctgact 17880  
ttatgaacaa taaaagcaaa ccactggatg attcctggat atttaaactc ggggtatagg 17940  
catccttgcc tcattgtctga caaacacaag attttaattt ttctactag agccaaatgc 18000  
aacaatgtg gttatgaata gaaggctaag tgttctcctt aaaaataggc tacttgtctg 18060  
aggataatt ttatttattt atttttcttt aatcagctga atttaagatt catctaaggt 18120  
atggtttttt aactgtgggg cacataactc agaatttcca aagtccttgc aaatctcgag 18180  
tctgtttcca aaccacaact cagtccact tcaaagaaat agactcaagt tgatcacttt 18240  
ctaactatag tttctgcaaa gactgagaag aaacctatca tactactatg gagacaccac 18300  
agtcaacccc actcctggaa ctacttaatc aacaccattt tttgttatgt ggggaaagac 18360  
ttctctaaag tgatcctagg ctgttttcag ctaagattca attttatgac tatccttaga 18420  
aatgtcacca aaaccaagaa gaatgagtc ttagggccaa gtatgggaaa ggaaaaacca 18480  
actgcataga ctggattgga aaatatagaa aaatatgtga ctgtgctgtg aaaatatcac 18540  
ctggtagtca tagtatatta taagctgata taaataatac aatgtcataa tgttataaag 18600  
tgctaaaata catggttcat taagagtctt aagatgaggt atcaacagaa cttttaacat 18660  
ggacctctgg gaacaatgct aacctactat actctaagac tctctaggat aagaatcacc 18720  
tttctttgtc tctgtcttct tttgtctctc ctccaagcac cagctctgtg ccacagtagg 18780  
tacttactgc atgtttcatt ctggattgca agtgctagaa atggctttat gactttatta 18840  
agtaaaatgt tagcaaaaact acaatgtttc gaagaagtac cttgacacct gcctactcca 18900  
tggaataattc aaaatgcaga cccaagaaa gatattgtga tcctcctcac aatttactaa 18960  
caagaataaa tccctcatgt atacaccgat catgttcagg aagggtgactt gggaaaaatag 19020  
ttgtttggaa ctggagtccc ctctgtttca ctctgcccag cagccaagat ggtcttttct 19080  
aaatgtggat tatgtcatct cactgtccca ctttcaaggg ctcaccattg tcctttcctt 19140  
aaggctaaaa atctcctcca gaacctgcct cctgcctaatt ctgcagctcc tattcttaac 19200  
atactccagg agcactggtc tccatcatgt ccatataaaa agaccagact ctgtcttctc 19260  
acatggcctc tgcatattgag ctcccatctg cctatttatg ttctttacc cttctgcat 19320  
gttgttagct cccaacatc tcaatacaaa tgctacctcc tcaaagaggt ctctctgag 19380  
cactcagccc agagaagttc ccaccaggcc attggatgtt cctcaatc acatcctctt 19440  
gtttgtttac ttctcatgtt gcagagggc gcaccagcaa aagagtagaa atgggtgggaa 19500  
acatggttga caaagtattt ggtttgggcc aaatttcata aggccttcag cgtcagtgt 19560  
ggagttcaga tgggtatagg ggagaaatct ggcatcagct ggggcagttt taggactgga 19620  
tcataattgca gtgtggacaa gaggtcatgc tgaagagact ggaggcagga agctcctcta 19680  
gaagccactg taatagtcca gtttagagga gtgattacc atattaaggc aattgagaca 19740  
agataacgaa taggagatac ggttgagtta aacaattcct gatcttaagg aacctatcta 19800  
tcagggagtg aagttaaggt tgaataact gaactgcaaa gccctgtaag ggaagaactc 19860  
caagagagac acctcaaagg agaatggttc cccatgaatg gtccactaa attgacatca 19920  
tttctcctc ctcatatta aagcaacgac aatctcattc agtttctctt tgagcctcat 19980  
gacttgctc tgcaatttca gtaaagtttg acttgacttt ttttttctg ttttctttt 20040  
gaaattagat cactcttcca gattgttcca acaagatttc aaagtaaagc tatggagggg 20100  
taattgtcaa cctttttaga ttttagcaca actctgaaaa agattaattt ttccaaaag 20160  
aggttatttt caagtgttag tgttagtgta aaagttgaaa ggaaaaccaa tagtatcata 20220  
aggggcttct ctcttgtag gtaaaataat ggcccactt tgttctcaga tgaagttaac 20280

acattcccag aggccaaagg gaaaactgga aagggcacca gaaaaaatat cactgaaaat 20340  
aatgatgggt aatgtacaag acgaaaatgg ccaattagtg ctattatagc acgattaaat 20400  
atttgcaaaa tttttttgat ttcagcactt aacttttaat atnrgttagt tagcttgaga 20460  
acggttatga aagctaatac ctgaagaatt gaataattca aactcaatta gataaaattg 20520  
ctaattgctt tgaatccagt gacaattata ccgttaataa tattattaaa ttgagaccat 20580  
tgtaaataac ttctggctac caaaggaaga aggaagagat aagacccgca gtaatagagc 20640  
agagtcaggc aggtctgagc tctaactctc gatttattac ttatcagcca tgtgactctg 20700  
gacaaactgt ttactctcta tgaagctcag ttcccttctc tgtaagatgg gtttaatact 20760  
actacttgct tccctagggct gttgtaagga ttaaattata tatttgtgca atgtgccttg 20820  
cacataaaac tcctcaacaa ataagagttt tccttctctt tgggacctga acaagacaat 20880  
gacacttggt gcctcagttt ctgcctgtgc aagatgactg actgcaggca ctgaattact 20940  
tggtgagggg gatgccatga tatttggtta aatgagcacc agcttatagt gaattattgta 21000  
attgccaaaa attttgctgg ctgtcattct aaagaccatg tagtttctat cttttccaaa 21060  
aactaaggct aagtctatta aataagttca tgaggcttta aaagtattac ttattacttc 21120  
tgcaaaagat gagaaaaaca gagataatgc aataactaac tcaaaatttg ggtttgatta 21180  
agatgacctg gaattgtacag agacaactgt gagaccaaag aaatttttcc tatggtcatt 21240  
aaaccaaaga ggttttggtt atacaaatca ttatactta acacttgttt aatagggttg 21300  
cgatgccttt taataagtat caagtatgaa atgtaatggg agagttttta gaaaatgtgt 21360  
gatttcatac acctaccaag gaatgcctcg cattttataa agtcctctgt aggttctaaa 21420  
acactttcac tggcatgacc tcattgaatc cctgttatgc ccctttaagc ctctttaact 21480  
gatgagaaaa cagagattca agagattcaa ccacttgccc agctgggtgtg tagtggaact 21540  
ttggcccaaa atcagggtctt ccaaggccaa gtctgacgat cttctcagta ctgcagagtt 21600  
acttctacat gattgatatc taataccgaa gttagaaaag aaaaaaaaaa gtataatatg 21660  
ggctgaattg tgccctccca acatttgtgt gttgaagctc taatccccta gtactttaga 21720  
atatgactgt atttgacag ggcccttaaa gatgtgatta agttaaattg aggctgaaac 21780  
agtcgcctc aatctgattg gtgtccttat aaaagaaaac ttgaatacac agaagactc 21840  
caggcatgtg tgacacagaa gaaggtcatg tgaggacaca tcaagaaggc agacatctgc 21900  
aagccaaagg aagggggctc agggagacact caacctctcg acaccttaac cttggacttc 21960  
tagcttccag aactgtgaga gaataaattt ctgttgttta agtccccta ctcacccctc 22020  
actcccgccc ttcagcctgt ggtctattgt tatggcagcc ctagaaaact aactgacagt 22080  
aatacaagat gaagagagct tacaccaaaa ctaaccaccc aacattaaaa aatgaacaat 22140  
taatttaact atatttgta tgatttaaaa tatttctctc tttcaatctt cccataaata 22200  
caagtcaatt ttcaccttgg gatgtttatt ggtcagggtc caatcaggaa acagaaacca 22260  
cacagtaatt taaataggaa aagttaaca taggatttat taactataaa atcagattag 22320  
ggcatgtggg gatgggctac tactggataa acagaactct aagaaatata ggaatggcag 22380  
gtgtaaggag cagttaccac acctaaaggct tatggagaga gcctgaggta gagcctccgc 22440  
cccatccacc tcagtctcgg ggctgaattg cagacctgtg tgagaaaggc atggccatgg 22500  
ctcactggat ggcagggaag ctgctgtggt gctgtacaag aagaacctgc tggaaacctg 22560  
cccttgagag tgccagggaag agctgttcac agagcgttgt ctctatgaca caaggcacta 22620  
gactatgaga ttgccctgtg gggagacaag gcaaagctcc tggccactgg gtactgtgta 22680  
ccatgtaccc tgaggggatt ggggctggga aagtcaccat tactgcaggt gctggacact 22740  
gctgaagccc ttggggccac cagaaacctg gtgctaaaga agccctgcca ggtgcacaag 22800  
acaagtgagc tcccagaacc ggtaagaaaa accccctcct cctgcagcat ctctccagca 22860  
ccttccacta acacagcctg gtattatacc agctggaaaag ggcaacatat ttaaagggtc 22920

ctctccattc tccaagggca ggcaacgaag ggtgaatctg gagctgagag gcatgaataa 22980  
ctggcacagg atgacacaca gttgtactta atgtgtgagt ctcatggtac tcaggtaact 23040  
aaagaatctg tatcaatatt ccaaactctg ttgaaagcgg taccaaggga cttgttgata 23100  
tttggggaag cttctccaaa gatagggtata gaattttcaa agtgcaaaagg aaggaaaaat 23160  
aatgaagggc aatctgaaga aacagggtac cacaatccaa agccgtgcat tcttaactgg 23220  
aatcttttgt cccaaacaat gaatatgagt tcacgagggt gcacaatgca taacgtgacc 23280  
caactgcagc atggtgttcc tggattttaa tctcctaaac ttccttgta ataaagtat 23340  
gtttatctgc atcactatat ttacaagtta aatatttaaa acctcagtc tcttggaatt 23400  
agcaaatatt tagtgccgat atgttttttt cttaattaac tctaaactag ctcaatttat 23460  
ttcaaatcat aattatctct aaagattttt atttatgagg ggaagagata taccaaagac 23520  
tactccaaac ttacaggaat tagatcagaa gtcttacaat tttctccaaa ttttcttcat 23580  
ggctgcctca aagagaaatc atgctatact ctatattttc tgcagtaaag ccaaggatat 23640  
gggagggaaa aaaaggggaa agagtcagtg aaagccagct tcttgctgaa actccactag 23700  
gtgccctgct ggaatctccc ttgaaagagg taagttggag ggaaccatt tttccattc 23760  
tcattcttcc ccaatgtctg gagtgatcaa atgcaaaaaca ctaggaaatgt ctggtttttt 23820  
aaaggaaaca gctgaaggca tactcttggt taaggatgat gtaagaagca agaatttcag 23880  
ttctatttcc ctcttggtt gctttcttgt ttttggttgt ttcttttctt atatttggtt 23940  
gctttgggtt gtgttgaaa tttagagggt tgaactggtt ggataactta gtcactcaca 24000  
cctaggagag agtgactaa tggtgcaaat tgtaaaactag caatacgaat agaattttct 24060  
catttctccg actaaccxaa gaatttggtt gcaatcagga tgcccattag gcatttatat 24120  
tttcaatgga ttataaattt tttttggaa taatgaattt tgcattagcc ctataaagg 24180  
aaattaaagt ctacaattta taaatacagg tgtgctagca cattagggtt tttataaac 24240  
atggacttta actttgtaat aaaatttttt ttcattcaatt tctagactag gagatttgta 24300  
gaagggggag attgtaattt ttgagatgat ctgttgtagc tgatgagatg atccctttat 24360  
tagtaaggaa atgaagatcc agtccggatc acctgactta tgtggttgga gtttatattc 24420  
ttcttcttct ttttttttct ttttttgag acagtgtctc actctgtggg ccaggctgga 24480  
gtgcagtggc acgatctcag ctccactgcaa cctccacttc ccggactcaa gcaattctcc 24540  
tgccctcagcc tcccaagtag ctgggattat aggtgtgtgc caccacgccc ggctaatttt 24600  
tgtattttta gtagagacag ggtttcaccc tgttggccag actggtcttg aactcctgac 24660  
ctcaggtaat ccgcccacct cggcctccca cagtgtggg attacagcg tgagccactg 24720  
tgcccgccct gtattcttca ttttctaacc atatcttctc tctcctcac tttgcctttt 24780  
ggacttgaga taatagcata gataactctg gttttcaca aggaccttc ccctggtgcc 24840  
tgggtggcatc tacattttct gtgttgctga aataaatgtg tgtctcactg catcaggctg 24900  
tcaaaacatg ctgggcactg atgaactgca gaatttttc ctctcatact gtggaaccgg 24960  
gcataggacc cagcaagaaa atgaaccxaa gaaccgctc catccagcag ccatgccaga 25020  
agcaccaact aaatctaaaa accacagatc caattaactc ctttctctg aagcaccxaa 25080  
aagacataat cttgtcagca ccccttgctc atgagccag atccaatgtt caatattctt 25140  
tttattttcc tagagccttc caaaataaaa attatttcaa ggccactccc tgtcaccgtt 25200  
ttccacattc ttaacagagg tatgtgttcc atgctccaca acaactctc actgatagga 25260  
cagtatttgt ttttaatttc tgtatagtat tatgatttgt tcttggtgtt ttcataatta 25320  
attgaacata catagccaga ttcattatag agagcaatgt gtagtaaagc atcccaggaa 25380  
tttttttctc gctggaataa tgaagatttc atcttcccaa ttttttctg atcacctgag 25440  
agcctacgca gcagagatat taaattccat cttgtgacat aacaccaaaa gcathtagcy 25500  
acatcctccc ctgaacaatg ctcaacgaga ctgcacttca tgacaaactt tattcccaa 25560

tcatatgagc cagatcacag ctcaaaaaa catgtcctca aacagatggg ctcttgcaaa 25620  
gtgttttcc atagatcatt ttcaactttc tctgttttct ttccactttc ctgtcacata 25680  
aaaattggat cataggctga tttatctcag gggcaatagg gcacaacttg tgttatgtct 25740  
aagatggttt cgtgcgactt ttatcaaca cagccaagga cagaagaaag tttcttgta 25800  
ctaaattacc ctgaaagtga tgaagagttt tattgattac aaaaatttaa gtgtgaaaat 25860  
tgtaccacga tgttactaca aacacatttt cttttcagaa gtttcagagt attaaatgga 25920  
cgtagtgcca actaaaacag agctgactat ttgatttggg gcatgatttt ctcagtga 25980  
atattactta ttggagagt ggtccaggcc aactttgaag aagtctaaca gaaggagaaa 26040  
agctgcaagg atgaggtgaa tcagggcctg aagtttatct ggctgtacaa ctcagatcaa 26100  
atcaagagct ggcccactgc ttattgaccg ctgacctctg gactgagact tccagaatgt 26160  
tccccagcat ggtggtcatg gtggcagttt ttgtttacct tcaagcagga tgttttgaga 26220  
gccggttgag aaatgatgct aatttgtatg gcaaactttc aagtcgaaat tgtctgtggg 26280  
ttttctgctg cttattgaaa tctgaactaa aagcaaaacc tatgatttct gccactcggg 26340  
tttaataaca gaaaacaag caatcacata aacagacccc ttttattgac tagaggcccc 26400  
aacttctccc ttcttgaaac atgagtcatt gggaaataga acttatacca taagcagaaa 26460  
ccggataccc ttagaatcag aagtatctcc aacactaatt ggattaaaaa tcaactaaggc 26520  
ctctcacaga ctggagcatt caaatcaaat tagccaccat cttattttgt gaaaataaag 26580  
aattagtgcc ttgtgtgtac attttcatca caagttaatg agggacgtag catgactgaa 26640  
actgctcacg ttaccggaat tcagatatca ccaaatgccc ttttctttt tcttttctt 26700  
tttcttttct ttttttttt ttttttttt tttgagacag agtattttct tgtcatccag 26760  
gctggagaac agtgacatga tctcagctca ttgcaacctc tgcctcctgg gttcaagtgg 26820  
ttctctgccc tcagcctcct gagtagctgg gactacagggc ttgcaccact acccccagct 26880  
aatttttgta ttttttagtag agacaggggt tcgccatggt ggccaggctg gtctcaaaact 26940  
cctgacctca agtgatctgt ctgccttggc ctcccaaagt gctgagatta caggcgtag 27000  
ccactgtgcc cgccccctt tcatttttt tcatgcaaaa gctgaactgg aatcctaagg 27060  
ttctccagct gaattctttc ctaaggtagc aaggcagaa tcctcacttt gcaaatgaga 27120  
acatggaagt ctaaagagtc tgtgatgagc tctagacctt gcagtggttt gacagcaaca 27180  
catacaggta agaccagct gtccctacct gcaatgctgt atgtgctctg gtgattccac 27240  
tagtgtttcc ttgagataaa gggagatgca gtgatcttc caagtgggag tgacctatcg 27300  
agcagcccag ctactggctt tgggtaaaac agagccctgt gatcttctc gctcataata 27360  
taatgatgac cacatcagct cctcacagca atccactgat gcaggaggaa agagagcaaa 27420  
ggccaggcaa gcaggcagag gacctctgct tctggttaga acgtaagaga acgggaaaga 27480  
cctttgtttc tgagagaact acaagaaaag ctgggacaaa ataaaaagtg tgcttctcta 27540  
ccaggctagt taagagcagt gggatgcaag aaatcttgga tgacctgaac tccagagaga 27600  
agtgagacct ttatggtgag cagcttccac acctcgggga gggagtcaga tccctgaatt 27660  
acaagatgga ggagggtcct gctggagcca gggagactct gcagggatgg ggagaactca 27720  
gctgagcctg actgtgccag ctggcagggt ggatggcatc tggaggagcc ccaaacaaag 27780  
cactcagccc agtaattcag cctgcctaga ccacaccag tcccaaat tgttgaggag 27840  
gtggcagtgg aagagaaaact ggaatacatg ccccggtgtg cttggattca gaagcccaga 27900  
gtttacctca cgaggaaacca agggcatctg gaatcgagc ttaaccctt cttacctgaa 27960  
atactgacaa gatcagcaag gtatctccac tgatactgaa atgcagagca cccaaaagg 28020  
caaatatgag agtcactatg aaaggctgct tttcatcatt gctttaaaag gtaattgttc 28080  
aaggcacaaa taatagcaat atgctatggg atttatggg tttataacat atgtagaagt 28140  
aaaaatatg gcatcatagc accaaagatg gagaagcagg taaatgtgaa tataccatta 28200



aaaccttgta tctggggccag atgcagtgcc tcatgcctgt aatcccagca ttttgggagg 28260  
ccaaggtggg tggatcatga ggtcaggaga ttgagacccat cctggctaac acgggtgaaac 28320  
cccattctcta ctaaaaataa aaaaaaaaaa aattagctgg gcgcgggtgg agatgcctgt 28380  
attcccagct actcgggagg ctgaggcagg tgaatggcat gaaccagga ggcagagctt 28440  
gcagtgaacc aagatcatgc cactgcaccg cagcctgggt gacagagcga gactccgtct 28500  
caaaaacaac atcatcatca acaacaacaa caacaacaaa cctcgatatc gacgtggtag 28560  
aagggttaatt cagtgcattt tatattaagg ttgcaaatta taatcacaa agcaatcatt 28620  
tcaaatataa aacaaagggg ctatttttatt tttaatctct tttcttctct ctcatggag 28680  
agaaaaagtg aagggacatg ctgcccagat gtgccatcag gatgggagca ctacttcccc 28740  
tagctgctgc aagatgtaga tattgtagcc tcttgctgag cccctctcca gaattacat 28800  
tggtcctaag aagcagtcct acccaaagat acatccctta cctggaggca gcctgcattc 28860  
tattactcac tgatgaaggg gcacaggggt ccagccgtct tgcctcaact ggaaagagtc 28920  
cagttccaga gctccccaca ggattggctg agtctgctgt tgcaactgga tcatagttaa 28980  
ttccccctgc ccacttctgc ttccctcacc cctcgagggg gctggtcctg agaccactca 29040  
taggaaacct cctgcacaca gtctgttttc tggggaactt gacctatgaa cgttggtccc 29100  
agcagcatgt tggagctgtc atctgctagc tgcttcagtg aagacctcat cactgggtgg 29160  
aggcacttgc agttatgatt cacttggtta aattttcact ggtggtgaac taggacatga 29220  
tacttgggaa gaaactgctc tggcagatgc gagatctcag gtgtttaaga gttttggggg 29280  
aaatagtaat tataagaact atggaatcag atggttggtg ctagaagctg ttaattcatt 29340  
ggagaaattt aataaaaagc taagtgatta aacaccaata taaggcaagg tacacatacc 29400  
agaggacctc ttggctttta tatgaagcct atgaaaagac tattatcctc tgcaactgca 29460  
gggcagatac agctgagaag caggccccag gtttaattat aagagtagaa atgctgaaag 29520  
caacactgaa gtttagtctt ggcaggtcgg ctaggccaaa gtcagttcta tgattaggaa 29580  
agagtgggat ggggacattt gggttcatat attaaaacat ctcaagttct caagttccca 29640  
gatcctctgg aattctctag gcctggaata gtatcctact cttctcctta aaggctaata 29700  
cctgcttttg catgaagatg atgatgaggt tctgctttgc aagacaatgc atgacaactc 29760  
cctccttctc ccctcaaaaa tctactcttg gccaccagac ccataggtaa ggtcaagcca 29820  
caacatattc tagccagaaa agtgtaaacg tgctaaggga agaaaacgaac tatagcccag 29880  
agagctgtgg gaccagcca atatgtccta caagtgcac aagcacatgt gcaggaggga 29940  
atagagagac tgctggacaa agtgggatga aatgcaaagc tggatgggga aaatgtattg 30000  
ctatggaagc actctccttt gatgcaacat ttaacatcct ggtaaggacc ccaggagttg 30060  
gacgcttaga aaatgctatg ccaagtcaaa tggagatgtc agatcatgga ggatggggaa 30120  
ggaagggatg aaaggctcag aaaataggca agctagatgt gatataccat acaaggccag 30180  
agaaccgaac agctgatagg ttttttttct acaagagggc ctagaagaat gctgtatttg 30240  
ccaaagcaag aagaatacgc cggtgagagg gcaagtgtca tgaagaagct cagtgggtgc 30300  
tcttctctga aggtcaagac tattacagga tatccaaagg tagatgatat aggcctgggc 30360  
tccctagtaa caatgggact gatagaggtg gcacttactg tccaatgcaa ggtgtttgta 30420  
gtcatcataa tgtaattatc ataaggggca gcaaaagtgg tgtgacagct agtgggatct 30480  
aaccacaaa gagctacgga aatggtaaaa agaaatttgc attcgagggg aaaaacaggc 30540  
agccaacaaa gtattattgc tcaacctcta caactaaaat aaaccaagga tggctcatca 30600  
ggaagctgag ggcaagacgg actgaagaag aagctaattc ccagacctt cctccaaagg 30660  
gacctgcagc catttccttg ggtaactgga ctctggggag ggtaaatgcc caaacatttt 30720  
gaagatgttg gacacggatt gttgttgaca ttgatactg gggacctgaa acaagaatga 30780  
acactccatt agaggggggtg aacataagac ccagataata aataaagtcc tgaacaaaat 30840

tcagttcaca gtcagctcag atatgtcttc tgagtaggta taccgggctg gcaaaggcag 30900  
tctaataag gcaatcatgg gttctagatt taggatggca aacctcacca tacaatggc 30960  
aggattacac ctgctgggca tgaatatga ggtaatatgct gcttcccta actgctacaa 31020  
gaggtaaata ctgtagcctc tgctgagcgc ctctccagag ttacccttgg tccaagaag 31080  
cagtctcacc caaatataca gcttatatta gagcatgagc ttgaaacca gacagagggtg 31140  
tattcacatc ccagttctgc cactcagtaa ctaggattct tgacaaggta acctctctga 31200  
gcctcagttt ttgatcttt aaaatgggaa tattactaac atcttcataa ggttattttc 31260  
acatgtagaa gagacaataa gtggttaacc ctacgcccac tgctgggcac tacagagatg 31320  
gcagctgtta tgatgagagt tactgtgaaa aggggttggga aatttgcagc aatgcgttcc 31380  
gaccatgaag tcttgacac accaatttgg atgggtggtg cagaagtgtg tgctgctgcc 31440  
caggggtgtt gctgtggaag gaccttgaca ggcaatggga ggcaggagct ccgcaaacat 31500  
gaaaatgtca caggaacctc tgagatgtgt cacctggagc cacaacagat gacagagatg 31560  
gcaaacatc tgctttagtt ttgttcagag caaagagctc aagaaaagtg aggatcaaat 31620  
tctacagaac tgttccatt ccctcttctg ctctcttttc ctggctcaga atgatcttga 31680  
caatgaagag gcagtaggag acttactacc tctgtagcca gaacaagctg aaaacagaag 31740  
caggcctcgg ggcattgggt tcaacttagag gatgattgat gctgagatgc ttcagttatt 31800  
cagaatccag caatctggta acctcgtgta tccgggatgt tatagaaaat gtggaagtaa 31860  
gtctgcaaaa catctcaggt gtcaaaagag aaatatcaaa gtatactcac aatatgcaag 31920  
gagagaagag gagaggccct ttccctgagc cctcagtaag gcttactctg ttctattttc 31980  
cccacagcgg tacaagctgc ttccctgtcc tgacaagcac aataaaaggt gcaaacctga 32040  
ggaacgtggg gacctcacag aggcaggcgc agccggctca tcgagatgtg tggacagcag 32100  
aaagcgagtg aggcaagaga aaatcagcac agggtaaaaca tcagagatca aagggcagca 32160  
gctggagtca ctgggtggag aagcagtgca actgtggctt acccaggcag ccagggttcc 32220  
aggagattct tctaggccag agctctgaca tattaccaaa acagctgaca actttgcctt 32280  
ttgcatggga aataagtgga aatgaatctt ggccatccac cactggtttc gaaaagatcc 32340  
aggcaaggtc tgtgtgcacc tgccacacaa aaatgaattt catgtgattg caacaaacag 32400  
aacaatagtg caagcaaat tcttaggaaa acttttgtcc agaggtaatg ccagctgggt 32460  
gtagcattgc aactaaagt ttagagaggga ctactcatt ccacagggt ccagtggggt 32520  
tttgactta caactggat tcatcacctc tgcgggtgcc tgaataatga ctctcataga 32580  
ttttcagggt tatactctgg aacaacttgt agttgttatt aataccttac attacaaaac 32640  
gggttttgca gatgtgatta aggtaaggat tttagagatgg ggagattatc ttggattatc 32700  
taggtgggct ctaaatgtaa tcacaaggat ccttataaga tacttataaa tatgaggagg 32760  
gggaagagag atgactatag aagaagaaaa ggcaatatgg tggcagaatt ctgggacaga 32820  
tggtgggagg ttggaagatg cttttctact ggctttgaag atggaggaag gtagcatgtg 32880  
ccaaggaata caggtggctg ctagaagctg aaaaaggcaa gaaacagttc tccctgggag 32940  
cctcctgaag taaccaacca aacattgaaa gggtagaggg aagtgttcag tgttggtcag 33000  
acatgtgaaa aaataattca tgatccattc agaaactgat caccatacac ttatcagtta 33060  
gagggctaaa gctagtgtag caacatttag agaatgtata atatctgttt tttttttttt 33120  
ttaagacaaa gtcactctgt tgcccaggct ggagtgcagt ggcatgatct tggctcattg 33180  
caacctccac ctcccagatt caagtgatc ccctgcctca gcctcctgag tagttgggat 33240  
tacaggcaag cgctaccatg ccagttaat ttttgtattt ctaatagaga cagggtttca 33300  
tctgttggc cagacgggtc tcgaactcct gacctcaggt gatctgccc cctcagactc 33360  
ccaaagtgtt ggaattacag gcatgaggca ctgcaccag tgtataatac catttttaat 33420  
gtaatatcat tttgtatcga gaaaaaagga acaacagaaa aattctgact ggcctccata 33480

tctcttggtg gccacattt tcaacttcct cagttaattt ttccacctt tttcttcaat 33540  
ggcttgattg agatctattt cacatacctt ataattcaca tactttaaag tatacaatgc 33600  
agtagtggtc agtatattta caaaattttg caaccatccc cattatctaa ctccagaaca 33660  
ttttcatcac cctaaaaaga aagctcatgt gcattggtag tcactcccca tgttaccaga 33720  
gccctcatcc ctaggcaatc attaatctac ttctgtctc tatagactaa ccattcttag 33780  
acattttatg taaatggaat catacaatat gtggcctttg ggtctggctt ctttcagtta 33840  
gcataaagtt tttaagggtc atccatgttt atcagtatca gtacttcatt ccttgtttaag 33900  
gctactatcc cattgtatgg atataccatg ctttatccat tcatcagctg atagactttt 33960  
gggctattat atataatatt gacatgtatg aattttcata tggacatata ttttcaacta 34020  
tcatgggcat actgtacctg gcataaaatt gctggatcat atggtaactc tatgtttaac 34080  
tttttaagga attgccagac aactttccaa gatcatgaca ccctattaca tccccatcag 34140  
caatctatga gttgtccagt tctccacat ctttgtcaat acttggtact gtctgccttt 34200  
ttgattatag ctattctaat ggggtggaag tgatatttca ttgtggtttt gacttgcaact 34260  
tccctaataga ccaatgatgt tgaatatcct ttcatgtgtt aatcatttat ttgaatatct 34320  
tcatcagaga aatgtctatt cagaccgttt gcctattttt aaattgggtt gtctgtcttt 34380  
ttgttggtga gttgtaagag ttctttatat attctggata taatttcctt atcagatata 34440  
tgattggcaa atattttctc ccattgggtg ggttgtcttt ttactttcgt aatagcatac 34500  
tttgaagcac aaacgtttta aattttgatt aaatttgatt atctggatat tttttgttcc 34560  
ttgtgcttta ggtgtcatat ctaagaagtc attgcctaac ctaagtcatt caagatttac 34620  
acataatttc ttctaaaaga ttgtttgttt tagttctata tttaggtcta tgatctattt 34680  
taaataaatt ttgtatact gtgtggggca gggatccaac ttcatttgtt tgcagtgtga 34740  
tatatagttg tttcagtata atttgttgaa aagactgttc tttcccccatt tgaatggtct 34800  
tggcactttt cttgaaaatc aactgactac agatatatgg gtgtattatt ggactcaca 34860  
ttctgttcca ttaatctata tgtctatctt tatgccagta ccacacagtc ttggttactg 34920  
tagttttata gtagtttttg aaatctttgc atgaatcctc caactttatt ctttttattt 34980  
ttcaagattg ttttggtctat tctgggtcct ttgaatttcc ataaatactt tggaaatcact 35040  
tgtcaattta cacatgcaca tacatataca aaggcagctg gagttttgat agaacttgta 35100  
ttgaatattg aattcataga ccatttgggg aagtaatgccc atcttaacac tattaagtct 35160  
tccaattcat aaattcttta tatttaatct tttgaaatc tccaacaatg ttttatagtt 35220  
ttcagtgtgt atatcttata cgactttgtt taaatcgatt cccaagcatt ttattctttt 35280  
ttatactatt gtaaatggaa ttgttttctc aatttcattt tcagatcatt ctttgcattt 35340  
gtatagaaat ataattgatt ttatatactt atcttgtgtt ctgcaacctt gctgaactga 35400  
tttagtagtt ctaatatatt ttagtggatt ccttaggatt ttctacaaga ttatacagtc 35460  
tacaatatta tgtcatctgc aaatggaggt agtttttgtt cttcatttct agtcaggatg 35520  
atttttattt ctttttctcg gctaattttc ctggctaaaa cctccagtgc aatattgatt 35580  
agaagtgccaa aaaatgaaca tttttttctt gtacctgatt tttaggggga aagcattcag 35640  
tcttttacct ctttttggtc atgggcttat tatagatacc ctttgtgtta gttcattcag 35700  
gctgctgtaa caaaatataa taaacggggt ggcttatgaa caatagacat gtatttttca 35760  
caattctgga aactgggagg tccaagatca aggtgctggc ggattcagtg tctggtgagg 35820  
gccaaccttc tgattgatct tttctctgtg tcttcacatg gtgaaatgag taaggagat 35880  
ctctcgagcc tcttcataaa gggcactaat ccattcatg agggcttcac cctcacagcc 35940  
taatcatccc ccaaatgtcc accttctaac accatcccct tgcaggttag gatttcaaca 36000  
tatgaatttc ggggggacac attcagacca cagcaccctt tctcaggtt aggaagttcc 36060  
ctcctatttc tactttctga gtgttcctcg tttctttaa aaacaaaaat tatgcccagc 36120

ttagggcata attatgtccc cctccattat cttatttcca tatcattcaa ttccagctcc 36180  
ctcntgtgtc ttcacgacgg gtataaaagg ggccgctcaa t 36221

<210> 30

<211> 2397

<212> DNA

<213> Homo sapiens

<220>

<400> 30

gagctaaagc gggttcatag aagagtacgg gggcacatgc catcgcgga gggctcttcg 60  
aaaaaaaaa aatgttaaag taagatcgtc agaggagtcc tgccccgggtg ccaggagtct 120  
gcgggcgctc tcttctccc agtcagtga tccacatcc tttatcccc ataggaacc 180  
agtcctctc aagcctgcc cggttatct tccagtcgag aagttctct tctttatcc 240  
ccactaattg caagtctccc tccattatct tcttatttcc acattgttca attccagtgg 300  
aatacaggaa ttggcccatg gggaagagca gaaaaacgaa aggaatgaaa atgcttcagt 360  
gtttcaggag atttgaagat gtttcaggag atttcagtgt ttcaggagat tgaagctgca 420  
gtgaggatga gcctccctga tccccttctc ctcccggtgc cctgctggac taaaggagtt 480  
cccatgaggg aggtggcag ctgacaggat caccaggac taggacttgt gggccccaga 540  
ccactcctgg atgtgcccc tagcgcccc tgaaggcgt gcctcctct ttgctgggcc 600  
tcagcctctt tgctgggcct tgggtctcgg gacctccaag gcatgtcatc ttctttctct 660  
gtgtcctcca ctgtctagat tgtggccgcc tcagccatgg caaatggcaa ggacccagtt 720  
ttcacttccc ggcccacca gacaccaggc agaaactcta ataaccactt ttctgggttt 780  
ctacatcctg tgtctctgga tgactaatca tctccagagc atgaacaatt gagtcattct 840  
aagccccagg cttgaattgg tgcacaaggc aaccagcttc tcctcggcag gctctgggag 900  
cactggctga agtaggtgtg gccctcctaa gtcaccatcc tggcctggaa ctcttgagac 960

acaataggct cctccgggtt tgttgaagag cctttgctca actgaacctc tttattgtag 1020  
gcttttgctc ctttctgaac aggctcttac aagtagagca tgcaagatcg cattatgttt 1080  
agagtcccca tgaggccatg ctctgcaggc ggccttgga caccagcgca tcctcttctg 1140  
ggaacagaac tccaagctcc tttgaataac aactactccc cttctctctg agctgactca 1200  
ggccggccaa ttgacataat tccaatctct ggtgacagtt attgcttcag ggattggcac 1260  
ataacccaag ttgtcctac tagaataaat cctgggactt atttataagc tgacagaagg 1320  
agatgtattc tttttccac agcctctatc ctgaagagcg ttggaccctg gagctgctgg 1380  
ccacatcttg atctgccata tgtggtccaa gaatgaagtc aacacgaagg agaatgaagg 1440  
tgctgagga taaagtatt gacattctag gagctcctgg atcaaaccat gcctgaactc 1500  
aatttatccc ttgaactttt caattacatg aataaatcct ccttttgcct gagtcaatgt 1560  
ggattagtat cattggcatt cagaagattc ctaaagtctc aggtcttctg cacatctata 1620  
accgtggcaa ttgcggtcct gctctccttt cccctcccct gagcaggcaa gctttccttc 1680  
tctatcatgt aaaacctcct gggtcattca gagtatttct caaatgttac ctggagtctc 1740  
ccaagacttc agttctcact gaccatttac ttcttaaact gctaggatga taacctataa 1800  
ctttgcatct aaccaatccc ttagcacttt ccttagagac ttcttagaga tctttttgat 1860  
gcctaagggt aggaatcagg gcttctctat cttgtatatg cactgcccc caccacagg 1920  
tccatagaat aacagctgag gacctgtagc tctgcaaggg cagggactgt caaacatgcc 1980  
agactgcaca tggtagttac cactagaggg ctctgggtat gggcaataag caggacttct 2040  
gcattttaca tctatgttat cattcgagtc ttgtatgagc atttatttta caaatctcta 2100  
tcttgcaaag caaacctta gtgtgaataa ctgaggagtg gtggatcggc cagctcttcc 2160  
gtgcagtgtt ctaaagcctc ttgctcctgt ctctcctgtg ggaaacccat agttacggct 2220  
tcaagcagag acccaagcac cacctcaggg tcttgacctt gtttggaat aatctatcac 2280

caagatgcag acagagacaa actgcttcac agagcathtt atccccctaga aaatccccaa 2340

ccccagcatc gtcttcacca cggggctgtc aagatacccg cgggttggtcg caacagg 2397

<210> 31

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 31

tgcggtgggc tcaggaaccg

20

<210> 32

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 32

ttccatatct ccatgtggac

20

<210> 33

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 33

ccagctgacc atggttacgg

20

<210> 34  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 34  
caagggtgcc atggtgacca

20

<210> 35  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 35  
agggacaagg ttgccatggt

20

<210> 36  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 36  
ctaaactgaa ggagggccgg

20

<210> 37  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 37

ggtatttggt tgggtggctct

20

<210> 38

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 38

cacggcggca tctttcaaca

20

<210> 39

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 39

tccaactgat cacggcggca

20

<210> 40

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 40

ccatccttag tccaactgat

20

<210> 41



<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 41

gggcccacag tgcaccccat

20

<210> 42

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 42

ttgttgggcc ccaagtgcac

20

<210> 43

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 43

cactgtccta ttgttgggcc

20

<210> 44

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 44

cccccaataag cactgtccta

20

<210> 45

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 45

ctgtgacatt caccatgaag

20

<210> 46

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 46

ggcatctgtg acattcacca

20

<210> 47

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 47

gagatggcat ctgtgacatt

20

<210> 48  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 48  
tgcttaaact ccttcccgtt 20

<210> 49  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 49  
gctcctgctt aaactccttc 20

<210> 50  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 50  
gcgatgctcc tgcttaaact 20

<210> 51  
<211> 20  
<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 51

cagtgtcggg ttcgtacctt

20

<210> 52

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 52

ggctccagtg ctggtttcgt

20

<210> 53

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 53

accgtattc attctccacc

20

<210> 54

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 54  
gatggaccgcg tattcattct 20

<210> 55  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 55  
accttgaggt agggcagccc 20

<210> 56  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 56  
accggcggcc ttgagaacct 20

<210> 57  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 57  
tccgtggtgt taacaccggc 20

<210> 58  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 58  
cgaatataga gaacctcaat

20

<210> 59  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 59  
cattccgaat atagagaacc

20

<210> 60  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 60  
tcaaaaagtta cattccgaat

20

<210> 61  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 61

cagagtgaaa ggatatccca

20

&lt;210&gt; 62

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 62

gcagagtgaa aggatatccc

20

&lt;210&gt; 63

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 63

aagacccta tgcagtaat

20

&lt;210&gt; 64

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 64

ggcgattaag aagaccccta

20

<210> 65

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 65

agtctggctt cttggtcgtg

20

<210> 66

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 66

gctgaagtct ggcttcttgg

20

<210> 67

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 67

tggtctgctga agtctggctt

20

<210> 68

<211> 20

<212> DNA



<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 68

atgcataggagtactccat

20

<210> 69

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 69

ggttaatgtcataggagtac

20

<210> 70

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 70

acacggttaatgtcatagga

20

<210> 71

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 71  
ttcctccacgggaatccctg

20

<210> 72  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 72  
agaattcgatccaagtcttc

20

<210> 73  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 73  
tcctcattggttgtagagt

20

<210> 74  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 74  
agtattcctcattggttg

20

<210> 75  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 75  
tttatgtgtggatactgagg

20

<210> 76  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 76  
cacagtcattcatgttttaa

20

<210> 77  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 77  
ccagaacgcacggcaggtga

20

<210> 78  
<211> 20  
<212> DNA  
<213> Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 78

accttgagtcctactggtcc

20

&lt;210&gt; 79

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 79

actgcatttgctctgtaa

20

&lt;210&gt; 80

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 80

caatcgtctgacagcagcat

20

&lt;210&gt; 81

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 81

cagagagaagcacattctgc

20

<210> 82

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 82

tttctatgatgggacttgaa

20

<210> 83

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 83

ctggatcttttggtgaggtc

20

<210> 84

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 84

tagtacagaaggaacaacgg

20

<210> 85

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 85

tgcattcatcttgcacggct

20

<210> 86

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 86

gcagttacttactcttgttg

20

<210> 87

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 87

ccccgagtgcctagaacagac

20

<210> 88

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 88

accggcggcctagaaaacaa

20

<210> 89

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 89

ccactcttgccctctctgaa

20

<210> 90

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 90

ctttcagatctgataggaaa

20

<210> 91

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 91

caagtattcctgaaagaagg

20

<210> 92  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 92  
cacaggaaatggcaggtgtt

20

<210> 93  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 93  
acttcattcttggaccacat

20

<210> 94  
<211> 20  
<212> DNA  
<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 94  
tgcctctgtgaggtcccccac

20

<210> 95  
<211> 20  
<212> DNA  
<213> Artificial Sequence



&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 95

ggcacctagtgaggtttcag

20

&lt;210&gt; 96

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 96

atactgttcgagaggttggc

20

&lt;210&gt; 97

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 97

gagatggcatcttctggctc

20

&lt;210&gt; 98

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 98

cagtcctcatcatcatgta

20

&lt;210&gt; 99

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 99

agccgaaaccttgagaacct

20

&lt;210&gt; 100

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 100

gcgcttgctg ttttggcagg

20

&lt;210&gt; 101

&lt;211&gt; 20

&lt;212&gt; DNA

&lt;213&gt; Artificial Sequence

&lt;220&gt;

&lt;223&gt; Antisense Oligonucleotide

&lt;400&gt; 101

gtcctcagac cttttccttt

20

&lt;210&gt; 102

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 102

ccccgagtgc ttgagaacct

20

<210> 103

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 103

accggcggcc ttgctgtttt

20

<210> 104

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 104

tggcatgata tcggctcact

20

<210> 105

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 105

ttggctttac tgcagaaaat

20

<210> 106

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 106

gcagcttgta ccgctgtggg

20

<210> 107

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 107

ggatagaggc tgtggaaaaa

20

<210> 108

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Antisense Oligonucleotide

<400> 108

gcgctagatt gcagatcaca

20